ENGINEERING and MINING JOURNAL.

VOL. XXXIV. No. 20.

RICHARD P. ROTHWELL, C.E., M.E., } Editors.
ROSSITER W. RAYMOND, Ph.D., }
CHARLES KIRCHHOFF, Jr., M.E., Assistant-Editor.

NOTE.—Communications relative to the editorial management should be addressed to EDITOR, P.O. Box 1833, New York.

Communications for Mr. RAYMOND should be addressed to ROSSITER W. RAYMOND, P.O. Box 1465, New York. Articles written by Mr. RAYMOND will be signed thus * ; and only for articles so signed is he responsible.

SUBSCRIPTION PRICE, including postage, for the United States and Canada, $4 per annum ; $2.25 for six months ; all other countries, including postage, $5.00 = 20s. = 25 francs = 20 marks. All payments must be made in advance. Parties accepting any other than our official receipt for subscriptions, from agents, do so at their own risk.

Advertising Rates.—See page ix.

Mr. C. A. Green is our accredited representative for New York.

Mr. A. R. Brown, Jr., is our accredited representative for Boston and the Eastern States. Office, Room 1, Simmons Building, 40 Water street, Boston.

Mr. J. Viennot, 150 South Fourth street, Philadelphia, is our accredited representative for Philadelphia.

Mr. A. H. Taylor, 159 Lake street, Chicago, is our accredited representative for Chicago and the Northwest.

Mr. O. D. Cotton, Room 36, Wiggins Block, Cincinnati, O., is our accredited representative for Cincinnati, O., Louisville, Ky., and vicinity.

REMITTANCES should always be made by Post-Office Orders or Bank Drafts on New York, made payable to THE SCIENTIFIC PUBLISHING COMPANY.

THE SCIENTIFIC PUBLISHING CO., Publishers,
P.O. Box 1833. 27 Park Place, New York.

CONTENTS.

	PAGE.
EDITORIALS:	
The Lake Valley Mines	253
The Milling of Refractory Silver Ores	253
The Art of "Freezing Out"	253
The Mining Interests of Mexico	253
The American Society of Mechanical Engineers	253
The Reading of Papers	253
The Mines, Miners, and Mining Interests of the United States in 1882	254
CORRESPONDENCE:	
Bessemerizing Copper Sulphurets	254
The Vermont Copper Company	254
The Lexington Mill	255
The Garrett Wire Mill	257
Mining Matters near Georgetown, Colo.	257
Accidents in Prussian Mines	257
PROGRESS IN SCIENCE AND THE ARTS:	
A New Street-Car Locomotive	257
The Growth of the Barbed-Wire Industry	258
The Solubility of Sulphate of Lime in Sea-Water	258
Water Cartridges	258
The Care and Maintenance of Bridges	258
Antimony in Toscana	258
PROGRESS IN SCIENCE AND THE ARTS:	
The Dangers of Electric Lighting	258
The Electric Light in Cotton Mills	258
GENERAL MINING NEWS:	
Arizona	259
California	259
Canada	259
Colorado	259
Dakota	259
Georgia	259
Idaho	260
Mexico	260
Michigan	260
Nevada	260
New Mexico	260
Utah	260
FINANCIAL:	
Gold and Silver Stocks	260
Copper Stocks	261
BULLION MARKET	262
METALS	263
IRON MARKET REVIEW	263
COAL TRADE REVIEW	264
STATISTICS OF COAL PRODUCTION	264
FREIGHTS	—
Advertisers' Index	x

SINCE the control of the Lake Valley mines has passed from the hands of Mr. GEORGE D. ROBERTS to those of the Philadelphia party, a new spirit seems to have been infused into that enterprise. The Wilson suit against the estate of Daly has been settled, a new smelter is to be erected, and there are other evidences of push. We suppose that the time will soon come when the affectionate care with which the "Bridal Chamber" has been left untouched for the admiration of visitors will be made to convert its wealth into the currency of the country.

WE print elsewhere one of the most important contributions recently made on the milling of refractory silver ores. Mr. C. A. STETEFELDT, who writes of his work at the Lexington mill, is too well known an authority in this special field to need our indorsement, and any thing coming from his pen will command attention. This time he throws out some suggestions and records some results of experience which are novel, and we believe are worthy of particular consideration. Progress in milling has been quite rapid during the past few years, and the number of those who are conscious of the defects of the present system and are striving to remove them is rapidly growing. Mr. STETEFELDT is one of the most advanced pioneers in this field, and his hints as to the direction in which he is seeking to attain progress will be received with interest by all and with approval by many.

"FREEZING OUT" does not appear to be a lost art, and the temptation to obtain control of properties of value by this simple process is too great to be resisted by those who look upon the general investing public as legitimate game. Public confidence in mining enterprises has been so thoroughly shaken during the past few years that it does not take any extraordinary amount of battering to frighten "outside" holders. It is one of the base tricks most popular with the sharpers who have brought mining into discredit, and the difficulty experienced in getting the victims together for harmonious and concerted action is one of the great points helping them in such raids. They are only too successful even when the "insiders" have not a controlling interest. There are evidences that this game is tried, with every indication of a disastrous issue for the shareholders, in at least one prominent mine.

OUR neighbors the Mexicans, are going at the development of the mineral resources of their country with an enthusiasm which contrasts pleasantly with the apathy of former years. The impulse, it seems, comes from the government, and is well received, at least by the more advanced and intelligent representatives of Mexican mining industries. The government has formed a new section for mining and agriculture under one of the departments, and at its suggestion a new association has been organized among leading mining men to co-operate with it in its efforts. A committee, consisting of Senores PACHECO CAMACHO, MIER Y CELIS, CONTRERAS, and JOAQUIN OBREGON Y GONZALEZ, has been appointed to draw up a constitution and by-laws. Meanwhile, the government has drawn up a sheet containing no less than 108 questions bearing on all the points affecting mines or metallurgical works, with a view to eliciting information on the present state of the mining and all allied interests in Mexico. It is not probable that the returns will be exhaustive or complete, but they will certainly be sufficient to enable a very valuable summary to be made. We are usually flooded by those interested in mining in Mexico with endless records of past glory and prosperity, and can learn but little of what is actually going on. If the new government department and its coadjutor, the new mining association, succeed in giving the world the information it really wants, they will do a great deal of good for their own country. Such evidences of enterprise and progress as the Mexicans are now beginning to display will insure for them the cordial support of our people. Earnest co-operation will further the interests of both.

THE final session of the American Society of Mechanical Engineers with a paper by Prof. GAETANO LANZA of the Massachusetts Institute which was in progress as we were going to press last week, opened of Technology—An Account of Certain Tests of the Strength and Stiffness of Large Spruce Beams. These experiments, which were carried out with large beams, were illustrated by photographs, and developed quite a number of curious features. They showed that it was not safe to assume that ordinary spruce timber, such as is generally offered in the lumber markets of our large cities, will bear a load as great as that frequently assigned to it. Professor LANZA's paper was one of exceptional interest. In the discussion which followed it, Mr. W. E. PARTRIDGE dwelt on the necessity of making microscopical investigations as likely to reveal the causes of phenomena which it would otherwise be difficult to trace and to understand. He gave some very striking examples of the value of the microscope in revealing peculiarities of the structure of wood. Professor EGLESTON, following up these remarks, stated that the microscope had been recognized as a valuable adjunct to the testing-machine in the examination of the mechanical properties of iron and steel, and he believed it capable of an important application in that of the metals also. The president then called upon Mr. J. SELLERS BANCROFT, secretary of the Committee on Gauges, to submit its report. It dealt exclusively with the ROGERS comparator as modified by Mr. GEORGE M. BOND, of the Pratt & Whitney Company, Hartford. The machine was described critically, and an account was given of the tests made to determine its accuracy. The committee speaks in the very highest terms of the machine, and pays a just tribute to the care and ingenuity of Messrs. ROGERS and BOND and of the enterprise of the builders. This was followed by a report submitted by Professor EGLESTON as president of the Committee on Tests of Iron and Steel. This report consisted merely of a summary of the work which had been done in the way of procuring signatures for a memorial. One of the most interesting novelties presented during the meeting, and one which elicited a spontaneous outburst of applause as soon as its principle was explained, was that presented by Prof. J. BARKITT WEBB, on a New Steam Indicator. It would be impossible to do justice to Mr. WEBB'S novel idea without drawings, and we shall defer a description until they have been prepared. After a brief paper of no special merit by Mr. ALFRED COLIN, on Technical Schools for Artisans, and the passage of the usual resolutions of thanks, the meeting adjourned, with the understanding that probably the next meeting would be held at Cleveland.

THE READING OF PAPERS.

The London *Mining Journal*, in a friendly notice of Dr. RAYMOND'S *Glossary of Mining and Metallurgical Terms* (an edition of which appears to have been issued by Trübner & Co., in London), says it is a somewhat unusual proceeding to present such a glossary as a paper to be read before a scientific society, and "it might prove somewhat trying to the patience of the members to have to listen to the reading."

We take pleasure in informing our contemporary that the members of the Institute of Mining Engineers are not subjected to any such infliction as it imagines. Papers consisting of definitions or statistics are read by title, and members who take an interest in them are thereby notified to look out for them when they appear in print, first provisionally and subject to revision, and afterward permanently in the *Transactions*.

This matter of the actual reading of papers requires to be managed, in

all such societies, with great care. It is certain that nothing is gained by boring an audience, even though it consist of experts only. Statistics and dry catalogues ought never to be read at length. If they need to be put before the hearers of a paper, this should be done by means of the blackboard or large schedules prepared beforehand. And engineers should study the art of making statistics interesting, not by detailing them at length, but by presenting their meaning in epitome, so that it can be appreciated without too much mental arithmetic. GLADSTONE is famous for his entertaining speeches on the budget; and we have known engineers who could, in presenting abstruse and elaborate papers, talk about them, without reading them at length, so as to charm all listeners.

The requirement that all papers shall be printed before the time of their presentation, is open to serious objection. It certainly diminishes the number of papers presented; and it renders all public reading of them a farce. So far as our observation goes, it does not even secure valuable debates. However, it may work well in some cases; and it should be judged by its fruits, without reference to any sweeping principle.

The most permanently valuable papers are often those which will not bear public reading *in extenso*. On the other hand, the persons who take the pains to prepare such papers are the very ones who should be encouraged and applauded. The two objects, to make meetings interesting, and to make Transactions valuable, should both be kept in view; and in our opinion, the best way of securing both is to enforce no general rule, but to leave the matter in the hands of officers who possess discretion and tact. This is what the Institute of Mining Engineers has done — thus far, with good results.

THE MINES, MINERS, AND MINING INTERESTS OF THE UNITED STATES IN 1882

The above is the imposing title of a ponderous volume compiled by Mr. WILLIAM RALSTON BALCH, who, it appears, has keenly felt that the mining community wants a book of reference. Mr. BALCH'S idea of what people interested in mining ought to be able to refer to at any moment is very wide, and it finds expression in nearly 1200 pages of closely printed matter. Mr. BALCH has industriously hunted through a library of no unusual magnitude, and has picked out all those articles which seemed to him worthy of being placed on record permanently. Skimming over the whole range of mineralogy, mining, and metallurgy in all its branches, taking up mining law and stock markets, etc., his material has naturally grown under his hands to unwieldy proportions. On the whole, Mr. BALCH'S selections are judicious; but as the literature of mining and allied branches has many gaps, his record is incomplete. We believe that if Mr. BALCH had extended his work of compiling to gathering the many scattered items and facts which exist on subjects not formally treated in the sources to which he has confined himself, he would have produced a work of considerably greater value. As it is, the volume is a collection of papers contributed to the technical press, to the American Institute of Mining Engineers, to other bodies, and to government reports. We miss intelligent abstracts from the vast mass of valuable material stowed away in State geological survey reports, and know that Mr. BALCH, perhaps from the force of circumstances, has failed to avail himself of other sources. We are well aware of the fact that an attempt to write a work of reference by departing from the letter of the original documents, and condensing, amending, and supplementing them, would have involved an enormous amount of labor; but it would have filled a want which Mr. BALCH'S book will, let us hope, only temporarily supply. Mr. BALCH has made the first attempt, and as such his book is of considerable value, and will be duly appreciated by many. This will be particularly true of that large class—the majority, in fact—of mining men, who have no access to libraries. To them the work will prove very convenient, and we can heartily recommend it as a fair substitute for a bulky, inconvenient, and expensive library. Mr. BALCH has paved the way: will he, or some one else, give us a handy, well condensed, and thoroughly illustrated work of reference, in which the gist of our literature, which is rapidly assuming appalling dimensions, can be got at quickly?

In conclusion, we need only say that the work before us has been very carefully printed, and contains a number of illustrations which add to its value. Its form is somewhat inconvenient, and it might have been better to divide it into two volumes.

CORRESPONDENCE.

[Communications will be noticed only when accompanied with the full name and address of the writer. Unless specially desired, only initials will be printed. We invite criticism and comment by the readers of the ENGINEERING AND MINING JOURNAL. Replies not intended for publication should be addressed to the Editor of the ENGINEERING AND MINING JOURNAL in blank, stamped, and sealed envelopes.]

Bessemerizing Copper Sulphurets.

EDITOR ENGINEERING AND MINING JOURNAL:

SIR: Mr. H. M. Howe, in questioning the justice of my criticism of M. Manhès's method of Bessemerizing copper sulphurets, finds fault with my assumption that the cost of two cupola fusions and two Bessemerizings would be as great as that of two fusions and one calcination. I meant, of course, cupola fusions in both cases; not cupola fusions in one and reverberatory fusions in the other. Blister fit for the refinery is made from roasted ore by two cupola fusions and one calcination; the second fusion yielding, it is true, a small quantity of white metal. At Bergen Point, it is understood that cupola smelting is conducted with the utmost economy and skill; and that the large 100-ton furnace working on pyrites cinder produces a matte of over 50 per cent in copper. Such matte, when carefully calcined by repeated heap or stall roastings—effected mainly by its contained sulphur—could certainly be almost entirely reduced to metal by another cupola fusion, and at less cost than by even one cupola fusion and a single blow. If reverberatory calcination of the matte is there resorted to, it is, I suppose, to save time, not expense. I did not question the probability that M. Manhès would improve his method and appliances. I merely compared M. Gruner's description of the new system, as practiced, with the old and known methods. The great economy in Bessemerizing would be, I expect, rather in the saving of time, and consequent interest on stock on hand, than in the cost of manipulation. It would not be surprising if it should prove more economical to oxidize the removable ingredients of a matte by driving a current of air beneath the bath of molten metal on a specially shaped hearth of a reverberatory furnace—as has been proposed—than to effect the oxidation in either a cupola or a converter.

As to the quantity of matte produced on the coast, I may have been unduly disparaging. Ely doubtless would keep a pair of large converters busy. But I left pyrites cinder out of my estimate; for it is to be hoped that if cinder is to be largely produced, it will not continue to be smelted to the sacrifice of its iron, silver, and gold. It has too long been the opprobrium of American metallurgy that it has wastefully neglected to save and utilize by-products and refuse.

Mr. Eustis and Mr. Howe have conducted experiments in Bessemerizing, and have also made a notable advance in the cupola smelting of copper. I hope this mild controversy may induce them to give us their experience of both systems.

J. D., JR.

The Vermont Copper Company.

EDITOR ENGINEERING AND MINING JOURNAL:

SIR: Your issue of the 4th instant contains a partial review of a statement made by the Vermont Copper Company of its resources and prospects. My own report has been largely quoted from, and, in one or two particulars, very properly criticised; but I ask for a few lines of space to set myself right, and to explain the apparent incorrectness of some of my statements, which might have been better done in my original report, had I had any idea that it would be used for publication or, indeed, for any other purpose than as a simple guide to the officers of the company for future work.

In the estimate of the results of concentration, no apparent allowance has been made for loss. In reality, however, it has been assumed that there would be a loss of 25 per cent, and this has been deducted from the assay value of the ore as given in the report. For instance, instead of asserting that 8 tons of 2·5 per cent ore would yield one ton of 20 per cent concentrations, it would have been more correct to state that the true value of the ore was 3·35 per cent; that the loss in concentration would be 25 per cent; and that, after taking this into consideration, the 8 tons of 3·35 per cent ore would yield one ton of 20 per cent concentrates. The same correction should be made for the 92 tons of 1·5 per cent ore, etc.

A short explanation will also show how it will be possible to treat dumps assaying only 0·5 per cent copper to a profit. The dump is made up of three principal classes of material:

1. Absolutely barren rock in large masses.
2. Mundic, mostly barren.
3. Rock containing rich threads and faces of copper.

In loading this material into the cars, the No. 1 and No. 2 grades will be at once thrown aside, leaving for the mill a mixture of stone of very low specific gravity, and copper pyrites of high specific gravity, and assaying from one to one and a half per cent. This will be crushed by breakers and rolls to ¾-inch size, and after most careful sizing, with a separate jig for each sieve, the ½-material will be jigged, yielding no ore rich enough for immediate smelting, but disposing of a very large amount of worthless rock in the tailings, and removing one half or two thirds of the worthless material at once from the subsequent fine crushing to which the headings of the ¾-jig will be exposed.

The work on jigs will be pushed to the extreme limit of possibility, every thing over half a millimeter being treated on these machines. The fine sands will be treated on Frue vanners, and the slimes caught in pits, to be subsequently handled by lixiviation, if rich enough to pay therefor.

You will see, therefore, that circumstances at this mine are peculiarly favorable for cheap concentration, as a very rough hand separation will remove all the mundic, leaving only stone and copper pyrites, which will permit a very high degree of concentration, and that the copper occurs mostly in such coarse particles that a very large proportion of the rock can be removed on a coarse jig, saving the heavy expenses and losses which always accompany fine crushing.

I should be very sorry to leave uncorrected a report published under my name, in which I made an estimate of the results of concentration, without taking its losses into consideration. With this apology for taking so much space for a matter concerning only my personal reputation, I remain, yours very sincerely,

EDWARD D. PETERS, JR., M.E.,
Consulting Metallurgist Vermont Copper Co., late Territorial Assayer of Colorado, etc.

ELY, VERMONT, Nov. 7.

[It is only just to Dr. PETERS and the gentlemen connected with the management of the Vermont Copper Company to add to the above letter that we consider the explanation given completely satisfactory. The manner in which allowances for the loss in concentration is made is, however, decidedly objectionable, and we believe should not be done under any circumstances.—EDITOR ENGINEERING AND MINING JOURNAL.]

THE LEXINGTON MILL.

Written for the Engineering and Mining Journal by O. A. Stetefeldt.

An old-fashioned millwright who visited the Lexington mill, Butte City, Montana, while it was in course of construction, expressed his criticism in the following characteristic words: "I do not like this mill, there are too many —— new things in it." Let us see what these new things are.

The Lexington mill was designed, with my assistance, by Salkeld & Eckart, of San Francisco, and its machinery was furnished by Fraser & Chalmers, of Chicago. It deviates in many respects from other structures of this kind. As it is not my intention to enter into a complete description of the mill, I will give here only an outline of the arrangement of its machinery.

The power is furnished by a compound Corliss engine of 250 horse-power, the steam being supplied by two pairs of steel boilers. Only one pair, however, is used, consuming 11 cords of wood in twenty-four hours. The power is applied in the center of the mill, and the whole mill is symmetrically arranged. An ore-house with two rock-breakers, and the salt-house, are close to the main shaft of the mine, and connected with the mill by a tramway. The engine which furnishes power for the rock-breakers during the day drives an electro-dynamo machine at night, producing ten electric lights, of which eight are in the mill.

For the drying of the ore, and salt, five Stetefeldt shelf dry-kilns are used, which are of new construction. The stamp-battery, in front of the dry-kilns, has 50 stamps of 850 pounds weight, and is fed by Tulloch's self-feeders. A No. 30 brass wire screen is used on the battery. Its housing is connected with a system of dust-chambers, with two Sturtevant exhaust-fans, which keep the mill entirely free from dust. Once a week, the dust collected in these chambers is discharged, and taken to a dust-hopper. The latter is provided at the bottom with a screw, which feeds the dust gradually into an elevator connected with the battery-pulp conveyers. This dust-hopper is also very useful to receive any sweepings collected round the battery.

All the pulp coming from the battery elevators, before going to the roasting-furnaces, passes through a revolving screen of Krom's construction. Any material carried out by the screen is returned to the battery. The pulp passing through the Krom screen accumulates in a hopper, located on the upper battery floor, and is fed from there by a screw to the conveying and elevating machinery connected with the Stetefeldt furnaces. Five stamps, on each end of the battery, with a salt-hopper, were set apart for crushing and feeding salt separately; but owing to a faulty construction of the salt-feeder, we were forced to crush ore and salt together, and use these stamps for the same purpose. On each end of the battery is a Stetefeldt furnace of largest size. Each furnace has a Sellers hoist, in order to have easy and convenient access to the floors on the top of the furnaces. The amalgamating plant consists of 20 combination pans, arranged in one row, 10 settlers, 2 clean-up pans, and 2 agitators. A bucket elevator raises the quicksilver to a distributing tank above the pans. On a level with the strainer-floor, is the retort-room, with two retorts, and a zinc granulating furnace, the granulated zinc being used in the pans. One of the retorts has a new style of condenser, which will be described later on.

The furnace for melting the bullion, a reverberatory furnace with gas-generator, is in a separate building detached from the mill.

Engine and boilers are located in front of the pan-room.

The entire structure of the mill measures 326 feet greatest length, and 138 feet greatest depth. This immense area, covering more than 29,000 square feet, is distributed as follows:

Dry-kiln building, 120 feet × 27 feet; battery building, 120 feet × 32½ feet; Stetefeldt furnaces, each 103 feet × 47 feet; Stetefeldt furnaces, fireman's floor, each 33 feet × 13 feet; pan-room, 163 feet × 35 feet; agitator-room, 24 feet × 22 feet; engine and boiler-room, 70 feet × 43 feet; and bullion furnace, 35 feet × 30 feet.

The fall from the charging-floor of the dry-kilns to the boiler-room is 61 feet.

I will now describe the most important new features of the mill, and then discuss some interesting metallurgical observations.

THE SHELF DRY-KILNS.

The old-fashioned dry-kilns consisted of a series of flues, covered with iron plates, which were either heated by separate fire-places or by the gases escaping from the roasting-furnaces. In the latter case, these flues also served as dust-chambers—a very bad arrangement. In nearly all mills of recent construction, the cylindrical or revolving dry-kiln has been introduced. These revolving cylinders do their work very well so far as the drying of the ore is concerned; but they have a number of very objectionable features. 1st. They require considerable power to drive them. 2d. The driving-gear and the front sections wear out. 3d. They lose much heat by radiation. 4th. They require a large system of dust-chambers. 5th. They must be provided with a self-feeder, in order to insure regular feeding. The dry-kilns which I have for the first time introduced at the Lexington mill are free from all these objections. Their construction is based upon the Hasenclever principle. A brick shaft 7 feet wide and 4 feet deep is filled with 5 sets of cast-iron shelves, 3 shelves in one row, arranged zigzag with an inclination of 38 degrees. Where two shelves meet is an open slit 4½ inches wide. Over the top row of shelves is placed a hopper to receive the ore. The ore slides down on the shelves, and does not come to rest until they are all filled. If now ore is drawn from the bottom shelves, the equilibrium is disturbed, and a motion takes place throughout the whole kiln, the ore taken away from the bottom shelf being replaced from the hopper on the top. Should the charge hang anywhere in the slits, which may happen if several extra large pieces of ore come together, it is touched with a light poker, which is inserted through a small opening in the wall, provided for that purpose, in front of each shelf. The heating of the kiln is done by a fire-place near its base, the flame of which passes up through a flue and enters the kiln under the top row of shelves. From here, the hot gases pass to and fro through the triangular spaces between the shelves, descending in the side-walls of the shaft, and finally falling into a flue, below the fireman's floor, connected with a chimney. Hence the ore is heated from top and bottom by a swift current of hot air, which carries the moisture rapidly away. Such an arrangement is made for very good reasons. If the fire were applied first under the bottom row of shelves, the latter would be in danger of getting overheated and warped by careless firing. A part of the moisture would also be liable to condense again, coming into contact with the moist and cold ore on the upper shelves. As it is, the top shelves, exposed to the greatest heat, are always filled with cold and moist ore, and the temperature in the whole kiln is very uniform. Four of these kilns (a pair of them being united into one structure) dry with greatest ease 50 tons of ore in twenty-four hours, and one is sufficient to dry eight tons of salt, with from ten to fifteen per cent moisture, in twenty-four hours. The salt gets very dry. Every crystal with mother solution decrepitates, and hard lumps remain in the kiln sufficiently long to disintegrate completely. The labor in a shift requires the attendance of one man to keep the fires and look after the salt-kiln, and one man to discharge the dry ore and salt, and take them to the battery. The amount of wood consumed in twenty-four hours for the five kilns is two and a half cords. Since the ore has only a sliding motion, no dust is formed and carried away with the draught.

BATTERY DUST-CHAMBERS.

The first really effective attempt to keep a dry crushing battery free of dust was made by the millwright D. Bell, in the construction of the Ontario mill, in 1877. He connected the battery housing by nearly horizontal wooden boxes, with the enlarged flue of an old-fashioned dry-kiln. Subsequently, when this dry-kiln came into disuse, and was replaced by the revolving kiln, I introduced a Sturtevant suction-fan, to create the necessary draught at the end of the chamber. Such a system, copied with its mistakes by others, while effective, has two great disadvantages: 1st. The horizontal flues between battery housing and dust-chamber fill up with dust and have to be cleaned frequently. 2d. The dust accumulating in the dust-chamber has to be taken out in buckets; and in order to do so, the battery must be stopped; hence the dust is allowed to accumulate in large quantities.

But outside of these mechanical defects, the working of the dust by itself in large quantities presents metallurgical difficulties. While the dust will roast very well in a Stetefeldt furnace, it gives very poor results in amalgamation, unless mixed with the roasted ore of ordinary fineness. That can not be done without great inconvenience, the room on the cooling-floor of the furnaces being limited. The ordinary roasted ore has to be taken to the pans, in order to make room for the roasted dust, which, in the course of several months' run, accumulates in quantities amounting to from 20 to 40 tons.

I have designed for the Lexington mill battery dust-chambers of the following construction: In front of the battery, and suspended overhead, is a wooden box or chamber 110 feet long, 5 feet wide, and 6 feet high. The bottom of this chamber is formed by 22 sheet-iron hoppers, 5 feet square, which end, each one, in a canvas hose 4 inches in diameter. Each battery housing for 5 stamps is connected with the chamber by a stovepipe 8 inches in diameter, standing at an angle of 75 degrees. Across the chamber are partitions which force the current of air, created by a Sturtevant suction-fan, up and down, thus facilitating the settling of the dust. The draught given to each battery is regulated by a damper. The dust collected in the hoppers can be taken out at any time through the canvas hose attached to each hopper. It is taken to the dust-hopper, mentioned above, and is at pleasure gradually mixed with the pulp coming from the battery. This system works very well, and should be generally introduced. With a strong draught, the dust which settles in the dust-chambers amounts to about one per cent of the ore going through the battery.

NEW METHOD OF INCREASING THE CAPACITY OF A DRY-CRUSHING BATTERY.

So far, nothing has superseded the stamps for fine crushing of ore, such as we need it for amalgamation. All centrifugal crushers, ball pulverizers, etc., have failed to stand the test. I am firmly convinced, however, that Krom's improved steel rollers, if they are only intelligently used and given a fair trial, will make the stamps a thing of the past. Who would put up with the defects of a dry-crushing stamp battery if we were not used to them? But such revolutions are very slow, and in the mean time we should devise some plan to increase the crushing capacity of the stamps. My idea is this: 1st. To crush coarser than is desirable for the ore to be treated. 2d. To sift the crushed ore through a revolving Krom screen. 3d. To concentrate the coarse material carried out by the screen in a Krom air-jig. 4th. To return the concentrations to the battery.

The Lexington mill was constructed with a view to test the practicability of this idea, which has been carried out with perfect success as far as the first and second points are concerned. We crushed the ore in the battery through a No. 30 screen, and had No. 40 on the Krom screen. The coarse material which did not sift through a No. 40 screen, about 10 per cent of the ore, was returned to the battery. It did not increase in quantity by being kept in rotation. I have no doubt that the ore will concentrate well in a Krom air-jig, its grade of size being especially favorable for this process.

Now, if you crush in the battery through a No. 20 screen, sift through a No. 40, and concentrate the coarse material, say ten into one, it is clear that the capacity of the battery, without much extra expense, will be materially increased. I propose to carry out this idea in detail, in the next mill in the construction of which I take an active part.

The same system, it seems to me, could also be carried out to great advantage with rollers. After the ore is pulverized to a certain size, concentrate the coarse material and return the concentrations for finer pulverizing.

NEW SYSTEM OF RETORTING AMALGAM.

It is strange that no improvements have been made in the system of retorting amalgam! The present method is most defective. It invariably poisons, in the course of six months, the men who work at it. At the end of the retorting, the retort remains full of quicksilver fumes, which can not get out. Condensed quicksilver is always found in the retort. Besides, the distilled quicksilver is, in part, in a very undesirable form: I am speaking of the black slum which forms in condensation, and is nothing else but finely-divided metal. I have succeeded in obviating these difficulties, and will give a description of the new system of retorting introduced at the Lexington mill. The principle applied is, to create a vacuum in the retort by a steam blast, to pass a continuous

stream of air through the retort, and to condense quicksilver and steam together. There is no change in the construction of the retort. The condenser consists of a box made of boiler iron, which is perforated by many tubes, like a steam condenser, so as to produce a large cooling surface. Cold water is made to circulate through the tubes. Where the retort connects with the condenser, there is a steam blast. On the opposite end of the condenser is a gas-pipe, which connects with the front of the retort through an opening in the cover. Thus, a complete circuit is established. When the steam blast is turned on, a vacuum is created in the retort and a pressure in the condenser. This starts the motion, and the same air originally in the retort and condenser keeps in constant circulation. Its oxygen is soon absorbed by the base metals in the amalgam, and a nitrogen atmosphere remains, which prevents any possible oxidation of the quicksilver. The quicksilver and steam condense and run out through properly arranged pipes. Only a very slight amount of black quicksilver is formed. From the gas-pipe which connects the condenser with the retort-cover, branches out a pipe 10 or 12 feet long, open at the end. This pipe acts as an equalizer of pressure, created by the expansion of the air inside the retort when it is heated. As soon as the distillation of the quicksilver is started, it goes on very rapidly, at the rate of 600 pounds per hour, with very light fire. At the end of the operation, the retort is heated red-hot. When the quicksilver ceases to run, the steam blast is kept in operation for half an hour longer, to remove every trace of quicksilver fumes from the retort. The retort can be opened hot, without any risk of getting salivated. A condenser for the second retort has been immediately ordered for the Lexington mill.

BULLION MELTING FURNACE.

In this department also progress has been made. The furnace I have erected at the Lexington is a small reverberatory furnace, with gas-generator, in which a mixture of charcoal and wood is used as fuel. The hearth of the furnace is made of a boiler-iron shell, lined at the bottom with a layer of 4½ inches of Portland cement. Upon this foundation is built an inverted arch of fire-brick, put in with a mixture of one half fire-clay and one half fire-brick dust, moistened with a concentrated solution of borax. The sides are also made of fire-brick, using the same mortar. The borax, in forming a glass, makes the joints perfectly metal-tight. The hearth is 3 feet 6 inches long, 2 feet 9 inches wide, and its greatest depth is 6 inches. The grate surface of gas-generator is 2 feet by 18 inches. A door below the flue is used for charging the bullion and drawing the slag. The metal is discharged by a tap, and runs into molds, placed on a truck, which is pushed forward, as mold after mold fills. It is surprising how uniform the bars are in fineness. A sample taken at the beginning and one at the end of discharging showed a difference of only two tenths of one thousandth in silver by Vollhard's volumetric assay. It takes from five to six hours to melt and cast into bars a charge of 1000 pounds.

METALLURGICAL OBSERVATIONS.

The ore which comes at present from the 200 and 300-foot levels of the Lexington mine is very base. Zinc-blende, galena, iron pyrites, copper pyrites, and native silver are the minerals which compose the ore in a gangue of very hard quartz, associated with equally hard silicate of manganese, and some carbonate of manganese. I estimate that the ore contains from 30 to 40 per cent in sulphurets. Outside of native silver, which in some stopes is very abundant, no precious silver minerals are found. Strange to say, the iron pyrites carries more silver than any other of the sulphurets. When the iron pyrites is rich in silver, it is always associated with silicate of manganese. I picked up such a piece in the ore-house, and it contained 100 ounces silver per ton. The ore contains also gold in the proportion of about 1 ounce for every 100 ounces of silver.

After getting the Stetefeldt furnaces into normal operation, the following facts became evident: 1st. That the chlorinations of the roasted ore from samples taken immediately after discharging were all very low. 2d. That the chlorinations of the ore roasted by the auxiliary fire-place became very high after the ore had been left in a red-hot state for twelve hours on the cooling-floor. 3d. That the roasted ore from the shaft, if left for twelve hours on the cooling-floor, was not materially benefited thereby. The following series of figures will be sufficient to illustrate this:

Chlorinations of Roasted Ore.

From Shaft.		From Flue.	
Immediately after discharging. Per cent.	After 12 hours on cooling-floor. Per cent.	Immediately after discharging. Per cent.	After 12 hours on cooling-floor. Per cent.
47·7	46·6	54·1	91·9
48·0	48·9	63·1	96·0
59·5	69·9	68·7	91·8
50·4	68·8	79·4	86·1
46·5	44·6	52·0	88·2
43·4	57·7	46·9	90·3

In making a close examination of the tailings, which were very high, considering the grade of ore we were then treating, I found that they contained a large percentage of a heavy, black substance, which proved to be magnetic oxide of iron. For the sake of brevity, we shall, farther on, designate it as magnetic iron. An assay made of the concentrated material gave 82·6 ounces silver per ton. I now commenced to examine systematically, with the magnet, the tailings, and especially the roasted ore. The method adopted was to weigh off ten grams of the ore, spread it on a piece of paper, and first extract with a large magnet. The material so gained was then purified by going over it again with a small magnet, as found in blow-pipe cases. I also examined the tailings from a mill close by, the Moulton. Magnetic iron extracted from the latter assayed only 32 ounces silver per ton. Below are a few examples:

Tailings.

Lexington tailings,	10·0	ounces silver.	5·7	per cent magnetic iron.				
" "	5·0	" "	2·9	" "	"	"		
Moulton tailings,	9·2	" "	3·6	" "	"	"		
" "	8·8	" "	2·4	" "	"	"		

Lexington Car Samples of Roasted Ore taken from Cooling-Floor.

Chlorinations.	Magnetic iron.
84·3 per cent.	2·9 per cent.
81·3 " "	3·7 " "
60·4 " "	8·2 " "
51·7 " "	10·0 " "

Samples of Roasted Ore taken from Shaft.

Immediately after drawing.		After 12 hours on cooling-floor.	
Chlorinations.	Magnetic iron.	Chlorinations.	Magnetic iron.
42·2 per cent.	15·5 per cent.	55·4 per cent.	12·9 per cent.
43·4 " "	15·3 " "	57·7 " "	14·3 " "
45·6 " "	14·9 " "	75·0 " "	6·6 " "
46·5 " "	13·5 " "	44·6 " "	13·5 " "

Samples of Roasted Ore from Flue.

Immediately after drawing.		After 12 hours on cooling-floor.	
Chlorinations.	Magnetic iron.	Chlorinations.	Magnetic iron.
46·9 per cent.	8·5 per cent.	90·3 per cent.	0·3 per cent.
52 0 " "	6·5 " "	88·2 " "	0·3 " "

The magnetic iron extracted from the roasted ore would assay from 49·5 to 111 ounces of silver per ton. From 38 to 77 per cent of its silver could be leached out by a chlorination test.

It became evident, from these figures, that the chlorinations depended entirely on the formation and decomposition of the magnetic iron. That the magnetic iron could be made to disappear again, was evident from the good results in the flue, after the ore had remained for twelve hours on the cooling-floor. There was also one sample obtained from the shaft which gave a chlorination of 93·5 per cent, and showed only a trace of magnetic iron.

My first supposition was, that because ore and salt had been crushed together, and because there was a very strong draught in the shaft, which was necessary, considering the base character of the ore, an insufficient amount of salt was coming down with the ore into the shaft. Mr. Wartenweiler, the superintendent of the mill, suggested that extra salt be fed into the shaft by throwing it in through the air-doors. This was done, but without producing any marked effect. Finally, we observed that the ore roasted by the auxiliary fire came out always much hotter than that from the shaft. We were working at the time, Ontario fashion, with air-doors on the shaft open. Mr. Wartenweiler proposed to close these doors, in order to get the charge hotter, and to introduce all the air necessary for oxidation through the air-channels connected with the air-slits above the fire-box arches. This was done, and had a most remarkable effect.

Sample of Roasted Ore from Shaft.

Immediately after drawing.		After 12 hours on cooling-floor.	
Chlorination.	Magnetic iron.	Chlorination.	Magnetic iron.
47·7 per cent.	17·5 per cent.	90·8 per cent.	2·3 per cent.

Nor is it difficult to account for the formation and disappearance of the magnetic iron. We have seen that the iron pyrites, when rich in silver, is associated with silicate of manganese. The pyrites, in falling through the shaft, becomes peroxide of iron, and the silicate of manganese remains unchanged. Oxide of manganese has, however, the property of absorbing more oxygen if exposed to a red heat. It grasps the oxygen from the peroxide of iron with which it is in contact, and changes the latter into a magnetic oxide. The silver combined with the pyrites has only in part been chloridized while falling through the shaft. Now, if the charge is very hot, and remains in that condition on the cooling-floor for some time, a chlorination process goes on in the charge much more energetically than if the charge has a low heat. Considerable chloride of manganese is formed (as I convinced myself by examining a solution of the roasted ore), the magnetic iron is reoxidized, and the silver chloridized. Manganese salts, I may mention here, are much more permanent at a high temperature than those of iron, copper, and zinc.

Our neighbors in Butte, at the Alice and Moulton, suffer from the same difficulties; but there the disease appears in a milder form, for two reasons. First, the iron pyrites in the Rainbow lode is not so rich in silver as it is in the Lexington mine. Secondly, they work together with their sulphuret ores more or less oxidized ores, especially the Alice, which has a large supply of them in the Magna Charta. These oxidized ores contain the higher oxides of manganese, which are beneficial to chlorination, and rather part with oxygen than absorb any more. At the Lexington, the supply of oxidized ores is at present exhausted. The low results obtained frequently at the Alice mill, when attempts were made to work sulphuret ores alone, now find their proper explanation.

Tailings.

It is generally supposed that, in amalgamating roasted ore, all the silver present as chloride is extracted, the more so as the amalgamation in most cases equals, and sometimes overruns, the chlorinations. Such is by no means the case, as the following figures will show:

Mr. E. H. Russell, the assayer at the Ontario mill, a very accomplished metallurgist and careful observer, has furnished me with the following data: The average chlorinations and amalgamation at the Ontario mill for a period of nine months, from April to December, 1881, were as follows:

Furnace No. 1.		Furnace No. 2.	
Chlorination.	Amalgamation.	Chlorination.	Amalgamation.
89·5 per cent.	91·6 per cent.	90·2 per cent.	90·1 per cent.

The chlorination tests are the result of 448 car samples, every assay being duplicated.

Examination of tailings samples shows that from 20 to 50 per cent of the silver contained in them was present as chloride of silver. Average chlorination of tailings, 36·3 per cent. From this it appears that we have:

	Furnace No. 1. Silver.	Furnace No. 2. Silver.
Remaining in tailings	8·4 per cent.	9·9 per cent.
Present as chloride of silver	3·0 per cent.	3·6 per cent.

If this silver had been amalgamated, the result of amalgamation would have been 94·6 per cent from furnace No. 1, and 93·7 per cent from furnace No. 2. It further appears, from the figures above, that there was amalgamated from:

	Furnace No. 1.	Furnace No. 2.
Silver in the form of AgCl	86·5 per cent.	86·6 per cent.
Silver in some other form	5·1 per cent.	3·5 per cent.

An examination of the Lexington tailings gave similar results. From 19·4 to 55·1 per cent of the silver left in them was present in the form of chloride. Still, the amalgamation is higher than the chlorinations show. The explanation is as follows: In roasting, some hard lumps are formed, which do not dissolve in the pans, but do so in the settlers by coming in contact with a large amount of water, and by being destroyed under the wooden shoes of the settler muller. There was a very good reason why, in Freiberg, in barrel amalgamation, the ore was cooled dry, and first

sifted before being charged into the barrels. The large quantities of ore treated in this country make such a process impracticable.

Now comes a curious observation made at the Lexington mill. After roasting in the shaft of the Stetefeldt furnace at such a high temperature that a slight excess of heat would sinter the ore, we found that the chlorination of the tailings varied between the limits of 4·3 and 22·3 per cent as compared with 19·4 and 55·1 per cent, while the roasting was done at much lower temperature. One would have expected just the contrary result. Very likely, the energetic decomposition going on in the very hot charge made the lumps porous, and in cooling down with a water-spray, they were much more disintegrated.

Extraction of Gold.

The extraction of gold by amalgamation from gold-bearing silver ores which have been roasted with salt has always been very incomplete. According to my observations, the percentage of gold extracted decreases the more time is consumed in roasting, the higher the heat employed, and the longer the charge is allowed to remain red-hot. In the mill of the Murphy mine, Ophir Cañon, Nevada, the extraction of the gold with reverberatory furnace roasting was only about 25 per cent. With the experimental Stetefeldt furnace erected there, I succeeded in extracting 80 per cent of the gold by amalgamation. Results not quite so high were obtained at the Auburn mill, Reno, Nevada, with ore roasted in a Stetefeldt furnace.

According to Professor Blake's report on the Alice mine, Butte, Montana, where the roasting is done in a Howell furnace, the percentage of gold extracted from January 1st to August 6th, 1879, was only 55·6 per cent. I was in hopes of obtaining much better results at the Lexington mill; but so far, our first results show only 58·8 and 60·8 per cent of the gold extracted. This is, no doubt, due to the high temperature we have to employ in roasting, and to the long exposure of the red-hot ore on the cooling-floor, both of which are necessary to get high chlorinations of the silver. The effect is equal to a reverberatory furnace roasting. Experiments are now in progress to extract a higher percentage of the gold.

THE GARRETT WIRE MILL.

Writing to the Secretary of the American Iron and Steel Association, Mr. B. C. Lauth, one of our best known rolling-mill engineers, gives the following data on the Garrett Wire Mill, at the works of the Cleveland Rolling-Mill Company:

"The mill consists of one train of three sets of 18-inch rolls, one intermediate set of 12-inch rolls, and two 9-inch trains, with four sets of rolls to each train. These trains are all placed parallel to each other. The billet they use at present weighs 100 pounds, but they can roll 140 pounds without any trouble.

"There are three engines. No. 1 drives the 18-inch train; and the intention is to put a 24-inch blooming mill on the other side of this engine, to break down a 10-inch ingot into a 4-inch billet. This will be cut into 100-pound billets, and they will be put into the furnace hot, and from there will go to the rod-mill as required; the ultimate intention being to finish 10-inch steel ingots directly from the converter into No. 4 or No. 6 wire rods, without allowing the steel to get cold. No. 1 engine is 40-inch by 42-inch, and is direct acting. No. 2 engine is 36-inch by 42-inch, and drives the one set of 12-inch and four sets of 9-inch rolls. The 12-inch rolls are driven from a counter-shaft with a 24-inch belt. The four sets of 9-inch rolls are driven by a 36-inch belt. The No. 3 engine is 36-inch by 42-inch, and drives the last four sets of 9-inch rolls with a 36-inch belt.

"Mr. Garrett has two splendid reels to take his rods as they are finished. These reels are driven from a shaft overhead, each reel having a friction-clutch, so that the boy can have perfect control over it. Mr. Garrett has adopted Mr. W. W. McCallip's repeater, and it works like a charm. Mr. McCallip is superintendent of Hayden's mills, at Columbus, Ohio, and deserves great credit for this simple piece of mechanism. I have seen it at work at St. Louis, Cincinnati, Columbus, and Cleveland, and all say it is perfection. At Columbus, they work the 8-inch train with three men—two roughers and a roller. Here Mr. McCallip turns the oval up with his repeater, and it works without any trouble whatever.

"This wonderful mill rolled 90,140 pounds of No. 4 rods in 9 hours and 10 minutes, and 105,480 pounds in 10 hours and 25 minutes, directly from a 4-inch billet, in 18 passes, at one heat. The billets are heated in two reverberatory furnaces."

MINING MATTERS NEAR GEORGETOWN, COLO.

Special Correspondence of the Engineering and Mining Journal.

The Kohinoor Mining Company, which has recently been reorganized under the name of the Donaldson Gold and Silver Mining Company, has leased the mill at the mouth of Trail Creek, near Idaho Springs, for the purpose of dressing ore from the Champion and Donaldson mines, and as soon as a suitable location can be secured, will erect works of one hundred tons daily capacity. Messrs. Fraser & Chalmers, of Chicago, will furnish the machinery, which will consist of one Blake crusher, size 15 × 9; 3 sets rolls, 30 × 16; 6 sizing-screens; 8 two-compartment jigs, 20 stamps—750 pounds; and 10 Frue vanners. A portion of the mill will be arranged for dressing custom ores. The same firm will also build for the Donaldson Company two wire tramways: one from the Champion mine, on Belleview Mountain, 6000 feet long; and the other from the Donaldson mine, on the opposite side of Clear Creek, 3000 feet long. Both will discharge directly into the mill, and will effect a very large saving in the cost of transportation. It is also proposed to light the mill and the Champion shaft-house by electricity.

The operations of this company will be watched with a great deal of interest by miners and mill men in this vicinity; as on the success of the mill at Idaho will depend, in a great measure, the erection of dressing-works in other parts of the county.

The Pay Rock Company has accumulated large quantities of concentrating ore at its mines, on Republican Mountain, and has decided to wait no longer for a custom mill to be built; but will proceed without delay to put up one of its own. Ground was broken at Silver Plume last week; and the intention is, to have the mill running as soon as spring opens.

Mr. Duff, Superintendent of the Pelican Company, reports a strike of considerable importance in the Eagle Bird, one of the company's properties on Sherman Mountain. No particulars have been received.

Mr. Carpenter is sinking on the Corry City, and has opened up a very fine body of high-grade ore.

Mr. Anson P. Stephens, who owns the dressing-works at Lawson, is running his mill on Corry City ore at the present time.

The Snowdrift, which was such a famous producer in times past, is again showing good ore. It seems that the vein was faulted by another which crossed it on the dip. When the point—or rather line—of intersection was reached, the wrong vein was followed, and the unfortunate owners have been exploring a perfectly barren vein for several years.

On Democrat Mountain, the Polar Star mine has been leased to Mr. Henry Fulton for a term of five years. This mine produced well some years ago, but has been badly worked by lessees, and will require a considerable expenditure of money to put it into paying shape. Other properties in the neighborhood are doing well, notably the Fred. Rogers and the Little Emma.

I was shown some very fine ore from the Summit mine, but did not learn any thing sufficiently definite to communicate to the readers of the ENGINEERING AND MINING JOURNAL. Taken altogether, the prospects in Clear Creek County seem better than for some time past.

GEORGETOWN, COLO., Oct. 31. Respectfully yours, F. H.

ACCIDENTS IN PRUSSIAN MINES.

We have already in the JOURNAL given statistics of the accidents in mining in Prussia. The official statistics for the year 1881 have come to hand, and may prove of interest in connection with our earlier references to the subject. The casualties were greater during the year than during 1880, and the total ratio of fatal accidents to number of employés per one thousand was far above the average, and was exceeded only twice during the period of 1866 to 1881:

DEATHS BY ACCIDENTS IN PRUSSIAN MINES.

	1880.			1881.		
	Total number of employés.	Deaths.	Deaths per 1000.	Total number of employés.	Deaths.	Deaths per 1000.
Coal mines	156.125	503	3·222	162.951	507	3·111
Lignite "	19.767	42	2·125	19,959	49	2·455
Metallic "	67.174	97	1·444	69,984	107	1·529
Other "	7,228	8	1·107	7,885	17	2·156
Total	250.294	650	2·597	260.779	680	2·608

The tonnage extracted per death was as follows:

	1880.	1881.	Average. 1871–1880.
Coal mines	84,042	86,567	77,156
Lignite mines	235,116	212,493	197,810
Mineral "	45,828	43,685	44,219
Average	88,152	78,841	80,836

The danger encountered by miners in ascending and descending into mines by ladders, man-engines, and cages is well illustrated by the following table:

	1880.		1881.		Average 1871–1880.	
	No. of men using.	Deaths p. 1000.	No. of men using.	Deaths p. 1000.	No. of men using.	Deaths p. 1000.
Ladders	64,350	0·062	59,764	0·084	82,171	0·101
Man-engines	6,987	0·429	7,830	0·383	7,990	0·570
Cages	85,837	0·023	98,328	0·081	71,190	0·115

As to the causes of the fatal accidents, the following table will serve fully to illustrate them:

CAUSES OF FATAL ACCIDENTS IN PRUSSIAN MINES.

Nature of accident.	Coal mines. 1881.	Lignite. 1881.	Mineral. 1881.	Total. 1881.	Total. 1880.	Total. 1871–1880.
Blasting	0·160	.....	0.129	0·142	0·104	0·123
Fall of rock	1·196	1·102	0.672	1·039	0·999	0·957
In inclines	0·497	0·050	0.057	0·321	0·252	0·241
In shafts	0·313	0·300	0.400	0·353	0·292	0·462
In galleries	0·074	0·150	.....	0·050	0·068	0·068
By fire-damp	0·374	.....	.....	0·233	0·359	0·186
Bad air	0·068	0·301	0.014	0·058	0·152	0·076
Flooding	0·012	0·551	.....	0·050	0·020	0·030
By machinery	0·055	.....	0.100	0·061	0 072	0·068
Above ground	0·252	0·250	0.071	0·196	0·196	0·174
Miscellaneous	0·110	.....	0.086	0·096	0·084	0·080
Total	3·111	2·455	1·529	2·608	2·597	2·405

The following table will similarly show the number of cases of injury per 1000 men employed, and the causes of the accidents:

CAUSES OF INJURIES BY ACCIDENT IN PRUSSIAN MINES.

Nature of accident.	Coal mines. 1881.	Lignite. 1881.	Mineral. 1881.	Total. 1881.	Total. 1880.
Blasting	0·730	.....	0·729	0·660	0·671
Fall of rock	5·278	1·653	1·958	3·972	4·111
In inclines	0·614	0·150	0·186	0·445	0·479
In shafts	0·417	0·451	0·472	0·426	0 427
In galleries	1·896	0·952	0·586	1·415	1·486
By fire-damp	0·589	.....	.....	0·368	0·455
Bad air	.....	.....	.....	.....	0·008
By machinery	0·215	0·651	0·300	0·272	0·228
Flooding	.....	0·100	.....	0·008	.....
Above ground	1·148	1·603	1·072	1·173	0·907
Miscellaneous	1·111	0·701	0·986	1·032	0·927
Total	11·997	6·263	6·287	9·771	9·701

The following figures will show how dangerous the injuries were, the number of cases being given:

	Injury 1 to 6 months.	Injury for life.	Total.
Coal mines	1,798	157	1,955
Lignite "	111	14	125
Mineral "	428	12	440
Miscellaneous	25	3	28
Total, 1881	2,362	186	2,548
1880	2,217	211	2,428

A New Street-Car Locomotive.—It is announced in Philadelphia that the Passenger Railroad Locomotive Company will soon have a new street-car locomotive running in that city. We are informed that the new motor has important advantages by reason of its special design, among its prominent features being a differential car-starter, which has been favorably spoken of.

PROGRESS IN SCIENCE AND THE ARTS.

The Growth of the Barbed-Wire Industry.—The Washburn & Moen Manufacturing Company, of Worcester, Mass., reports the following figures of sales of barbed-wire fencing in the country since the beginning of that new industry: 1874, 10,000 pounds, made and sold; 1875, 600,000 pounds; 1876, 2,840,000 pounds; 1877, 12,863,000 pounds; 1878, 26,655,000 pounds; 1879, 50,337,000 pounds; 1880, 80,500,000 pounds; 1881, 120,000,000 pounds, and 1882, 160,000,000 pounds (estimated). In the aggregate, this is 453,805,000 pounds of wire, representing 414,434 miles of barbed-wire fence three lines high.

The Solubility of Sulphate of Lime in Sea-Water.—Mr. George S. Strong, in a paper on his well-known feed-water heater and purifier, read before the Franklin Institute, gives the following table showing the solubility of sulphate of lime in sea-water at different temperatures:

Temp. Degrees F.	Per cent Sulphate of lime.	Temp. Degrees F.	Per cent Sulphate of lime.
217	0·540	245	0·226
219	0·477	250	0·183
221	0·432	255	0·140
227	0·395	261	0·097
232	0·355	266	0·030
236	0·310	271	0·023
240	0·267	290	0·000

It will be seen, therefore, that all that is necessary to precipitate sulphate of lime from solutions is to heat the water to a temperature of about 275 degrees Fahrenheit.

Water Cartridges.—At a meeting of the North Staffordshire Mining Institute, Mr. James Macnab, of London, read a paper on "Blasting with Water Cartridges in Combination with Inflammable Explosives." He described experiments he had made with the combination, and explained the action of the water cartridge and the combined explosives to be as follows: The column of water received the force of the explosion, which, acting instantly like a wedge, distributed the pressure on all sides over its whole length, thus catching, storing, and transmitting the force in an instant. The liberated water instantly and simultaneously expanded laterally, with the full force of the explosion, forming a natural and independent tamping to the gases, keeping them to their work, and reducing to a minimum the pressure on the front tamping, and thus presenting an effectual check to blown-out shots. The water prevented the spread of the flame to the combustible gases and coal-dust floating in the atmosphere of a colliery. By merely varying the length and diameter of the hydraulic cartridge, they could distribute the force over any practicable surface or extent they wished. It was arranged that Mr. Macnab should conduct some experiments in the Levcett colliery.

The Care and Maintenance of Bridges.—At a meeting of the Society of Civil Engineers, Mr. Henry D. Blunden called attention to the fact that while many papers and much discussion had been published on the design and construction of bridges, there had been little or nothing on the subject of their care and maintenance after erection. Indeed, there seems a prevalent idea that, once erected, they will last forever, with no care but an occasional coat of paint, and even that is often not attended to. A close examination during nine years past of a large number of bridges shows constant, shameful neglect. The fact is, that the immediate care of bridges is generally left to men who know nothing either practically or theoretically of their designs or manufacture. The single idea is to screw every thing up tight and to replace all rivets without asking why a rivet drops out several times in the same place. The paper enumerated various causes of undue wear in bridges: uneven bearing of rails and ties; insufficient freedom of expansion gear, often caused by accumulation of dirt; improper anchoring of fixed ends; poor masonry; uneven adjustment of laterals; uneven bearing of suspended floors; over-tightening of counters; corrosion of iron; false economy in construction of floors, rendering renewals very expensive; too large joints between ends of rails. Mr. Blunden also gives a number of suggestions as to the proper care of bridges, particularly insisting upon constant inspection and frequent reports to the office of the chief-engineer. In the discussion, instances were mentioned of the serious results of intrusting this duty to incompetent men, and the advantage found by the few corporations now taking proper measures. Reference was made to the great difficulty of adjustment in bridges with parts in cast and parts in wrought-iron. A case was described in which an iron rod in contact with sulphur became seriously corroded. It was stated that the ordinary commercial sulphur had an amount of sulphuric acid sufficient to cause rust, but that, when properly washed, it was safe. The use of sulphur or lead for joints was discussed. An ordinary misapprehension as to scale was illustrated by an instance where the actual amount of iron in the scale was found to be but one tenth of the scale. The use of lime whitewash to protect iron was considered, and instances of its good effect were mentioned.

Antimony in Toscana.—M. L. Bidou, of Siena, Italy, has contributed to a recent issue of *Le Génie Civil*, an excellent recent French technical semi monthly, a paper on the deposits, the mining and treatment of antimony ores in Toscana. The ore, partly oxide and partly sulphide, is found in pockets varying in size, distributed with tolerable regularity in white cretaceous clays or limestones, and, in one case, in a fissure-vein in limestone. In the former deposits, the ore is concentrated by washing, while the lower-grade ore from the vein, quartz being the gangue, is concentrated by smelting in a closed furnace, heated thoroughly with lignite, melted sulphide being obtained. For the reduction, the washed ore, broken to nut size, is charged in 400 pound lots into a roasting-furnace scarcely heated. The operation must be so conducted that the temperature does not exceed 350 degrees Celsius. According to the grade, the roasting takes from three to twelve hours, seventy pounds of lignite being required. The loss of weight is 8·6 per cent; while theoretically, with ore containing 30 per cent of sulphur, it should only be 2·73 per cent, so that there is an actual loss of nearly 5 per cent, inclusive of moisture. The roasted ore is charged with charcoal (755 kilograms to the ton of metal) and fluxes into a reverberatory furnace and melted at a red heat, care being taken to keep the metal well covered with slag, so that there is no waste by volatilization. In 850 operations, 167,236 kilograms of roasted ore were mixed with 121,931 kilograms of marine salt, 5732 kilograms of carbonate of soda, 40,186 kilograms of sulphate of soda, 17,323 kilograms of slag from previous operations, and 1998 kilograms of iron cinder. The product was 51,495 kilograms of metal of first fusion, or a yield of 29 per cent of the ore. This metal is again melted with the following fluxes: 52,268 kilograms of metal, 12,346 kilograms of sea-salt, 5690 kilograms of salt slag, and 348 kilograms of roasted ore, the salt slag being obtained in previous operations. The yield was 48,881 kilograms, or 93·5 of the first metal and 27·115 per cent of the ore. The second metal is cast into ingots for sale. The cost of mining, smelting, and delivery at Siena is 1435·11 francs per metric ton; and as the average price in 1880 was 1850 francs, there is a profit of 415 francs per ton of antimony. The following are full analyses of the ores:

	Rosia.	Selva.	
	Sulphides.	Oxides and sulphides.	Oxides.
Sulphide of antimony	58·14	14·05	6·27
Oxide of antimony	0·66	60·72	68·47
Silver	0·20	trace.	trace.
Silica	34·33	7·36	7·50
Lime	0·78	3·30	5·40
Magnesia	0·12	0·33	1·18
Alumina	0·16	6·56	5·20
Peroxide of iron	1·68	2·48	1·78
Water, etc.	3·90	5·20	4·20

The Dangers of Electric Lighting.—In the mill mutual insurance companies in New England, there were sixty-one establishments lighted by electricity up to last May. With few exceptions, the lights had not been in use previous to the fall of 1881, and many had been started early in the spring. In these sixty-one establishments, Mr. C. J. H. Woodbury records twenty-two fires due to electric lighting, and assignable to the following causes: Eight were from globules of melted copper or particles of hot carbon falling out from the bottom of the globes. The actual number of fires from this cause was probably many times this number. This class of fires will not continue to happen, as all makers now set their lamp globes in a tight stand with a ridge around the edge. A flat plate will not answer the purpose, as there was one instance where drops of melted copper rolled off and set a fire. Four fires were due to leaking water or washing floors, and two more were caused by water in a dye-house condensing on the building to which uninsulated wires were fastened. In most of these instances, a grounded circuit formed one of the two connections necessary to divert the electricity from the wires. Many of the lower carbons fell from lamps, and five fires were caused where they fell upon combustible material. Three fires were caused by cross-arcs from one wire to another, where uninsulated wires were fastened against conductors. In one instance, the conductor was formed by dust settling upon uninsulated wires, and on a damp day it absorbed enough moisture to form a path for the formation of a cross-arc, which started a slight fire. In another instance, the wires were fastened to a damp beam, which was decayed, and was burned nearly in two by the smoldering fire. And in a third instance, damp brick-work in a tunnel was a sufficient conductor to establish an arc, which did not do any material damage there, but injured the dynamo. Two fires were caused by improper switches; two by water reaching the wires of a circuit already grounded; and one from wires coming in contact with a building, so that their insulation was worn away. Electricity forms the safest method of illumination when the following precautions are observed: The system insulated throughout, so that there is no electrical communication with the earth, or from one part of the apparatus to another, except through the proper conductors, even if the wires should be exposed to water; all switches made with lapping connection, so that no arc can be formed; arc lamps provided with globes closed underneath, and the frame so arranged that the lower carbon could not fall out, even if the clamp failed to hold it securely; the wires of incandescent systems provided with a sufficient number of fusible links to secure the system against any damage from an excess of current.

The Electric Light in Cotton Mills.—A series of very interesting figures on the cost of electric lighting in cotton mills in New England, as compared with the cost of illuminating with coal or oil-gas, has been collected by Mr. C. J. H Woodbury, the expert of the Manufacturers' Mutual Fire Insurance Company. It is difficult to make a comparison between the various methods of illumination, because a change of light is always made an excuse for more light. Most mills are lighted with gas made by the destructive distillation of petroleum, and of about 80 candle-power, which is generally reduced to 60 candle-power by mixing air with it. The annual cost of oil-gas per burner is from 75 cents to $1. In all these estimates, interest at six per cent forms one item in cost. One large corporation, with exceptional privileges, makes its coal-gas at an annual cost of 69 cents per burner. Another corporation, inland, makes its coal-gas at an annual cost of $1.79 per burner. Of two large mills in the same city, manufacturing similar goods, the more modern one makes oil-gas at an annual cost of 79 cents per burner, while the older one buys coal-gas at $2.65 per burner. The longer time the light is required, the less becomes the average cost, because, with the addition of operating expenses, the interest on plant, being a fixed amount, becomes a smaller proportion of the whole cost. A dark mill, that is, one of which the interior walls are not whitened, requires about twice the number of lights that are sufficient in a white mill, and uses light about one hundred hours a year more than a white mill. The cost of arc lights in several steam mills running 400 hours per year is 6¼ cents per hour, of which 1¼ cents are for carbons and 5 cents for attendance, coal, depreciation, and interest. In a weave-room, on very fine work, 24 arc lights replaced 292 six-foot gas-burners, which consume (292×6) 1752 feet per hour; therefore, one arc light represents the consumption of (1752÷24) 73 feet of gas per hour. A careful estimate shows these arc lights to be costing 6¼ cents an hour; therefore this arc lighting system represents gas at 89 cents per 1000. A similar estimate in another mill gives the annual cost of gas $2188, and electricity at $1125, or equal to gas at 90 cents per 1000. The annual saving to that mill in lighting expenses by the use of electricity makes a profit of $1603, which represents six per cent on $17,716, without making mention of any improvement in work or production due to that light. In the case of incandescent lights, the cost is more difficult to estimate, because they are run at all degrees of brilliancy, affecting both the power and the life of the lamp. Both the Edison and Maxim lamps are guaranteed to average 600 hours; yet in the New York Post-Office the average record of the Maxim lamps is

stated to be 1850 hours up to September 1st, and 15 lamps had already burned 3456 hours. The ferry-boat Jersey City, belonging to the Pennsylvania Railroad, is lighted by the Maxim lights, and their record has been given to me as averaging 1645 hours, and the lamps still burning. In the Merrick Thread Company's mill at Holyoke, the monthly cost of lighting by gas furnished by the city was $225. By substituting Edison lights, the cost was brought down to $33.62 per month. The Holyoke Water-Power Company furnishes water-power very cheaply; and the result of the use of the Edison lights was to bring the cost of lighting a mill to the equivalent of gas at 65 cents per 1000 feet. Charles W. Lippitt, of Woonsocket, R. I., said that the Globe Mills had been supplied with the electric lighting system, which was much preferred to gas. For the season of 1881 and 1882, the company had used 117 large lights, running them for 367 hours, at an actual cost of $327.83. These took the place of 220 gas-burners, which, burning four feet of gas per hour for 367 hours, cost $710.60. The saving in favor of electric lights was $430 77, or an actual saving of 57 per cent. In another mill, oil-gas is used, and although it can be supplied at a lower cost, its results are not so good as coal-gas. The cost of running 220 burners of oil-gas for 367 hours is $473.11, which still leaves a margin of $145.28, or 31 per cent in favor of the electric light. Col. Thomas Livermore, of the Amoskeag Mills, said that they had 5000 looms lighted with 465 electric lights, which had during the last eight months consumed 37,000 carbons. The average cost of each lamp per hour is 2·89 cents. He had found that one arc lamp could take the place of twelve gas-burners, supplying 12 looms with light. His mills manufactured colored goods, and a stronger light was found necessary to distinguish the colors. They had supplied fifteen carding and spinning rooms with the lights.

GENERAL MINING NEWS.

ARIZONA.

CASA GRANDE DISTRICT.

ORIZABA.—A report states that $500 ore is shipped to San Francisco for reduction.

COCHISE DISTRICT.

COPPEROPOLIS.—A dispatch to the *Tribune* says that the timbering of the shaft was completed, and sinking resumed with good results, on November 1st.

CALIFORNIA.

THE BODIE DISTRICT.

The Bodie *Free Press* reports the following items:

BODIE.—The superintendent telegraphs: Bullion on hand, 1300 ounces. Mine continues to look well.

BULWER.—The south drift from the west cross-cut, 700-foot level, is in 225 feet. The rock is hard, and continues to show streaks of quartz.

NORTH NOONDAY.—The north drift, 325 incline level, is now 164 feet in length. The vein in this drift is large, and has shown quite an improvement within the past few feet. The incline is sunk to a depth of 570 feet below the 512-foot level. The mill is running steadily.

ORO.—The stope from the bottom of the 520-foot level winze has been extended laterally twenty five feet and vertically about five feet. The ore-vein is irregular but continuous, varying from a few inches to eighteen inches wide of $50 ore. The flow of water, though small, is constant, and it is forced with a hand-pump to the 520-foot level. Twenty seven car-loads of ore have been extracted during the week, of a probable value of from $60 to $80 per ton. The ore continues with but changes, carrying some very rich black sulphuret and ruby silver all through it, penetrating into the country-rock on the foot-wall, which is heavily mineralized in places.

RED CLOUD.—The shaft is now 729 feet deep. The flow of water has not increased.

STANDARD.—During the past week, there were extracted and shipped to the mill 1149 tons of ore.

NEVADA COUNTY.

SPENCEVILLE COPPER MINING COMPANY.—A correspondent of the Foothill *Tidings*, in describing this company's property, says that it has 43 acres of copper-bearing ground, and 100 acres of adjoining land, which was bought for the timber. There are hoisting-works, mill, roasting-sheds, and leaching-vats on the ground, which cover several acres. The mine is about 80 feet deep. The ore is found in a sort of chloritic slate and iron pyrites, which follows the ledge all around. The ore itself is a fine-grained pyrites, with a grayish color. About 70 men are now employed at the mine.

CANADA.

PROVINCE OF QUEBEC.

The demand for mineral lands containing ocher, says the *Chronicle*, has recently been so great that the government has felt it to be in the interest of the province to increase the price of such lands to $2 per acre. The former price was $1.

CHILI.

It is reported that copper mines have been discovered in Cerro de la Palma, in the Department of Quillota.

COLORADO.

CLEAR CREEK COUNTY.

DIAMOND TUNNEL SILVER MINING COMPANY.—A correspondent of the Denver *Tribune* says that the Diamond tunnel is in a distance of 2034 feet and will certainly reach the Corry City lode at no great distance farther, and at a depth of about 1400 feet. Lodes Nos. 5 and 8 are in good ore. In No. 5, both T and V levels carry from two to six inches of ore studded with rich gray copper. No. 8 has a three-foot pay-streak, samples showing that the whole width of the streak will pay well for milling.

MIDAS MINING AND REDUCTION-WORKS.—These works, at Idaho Springs, are in full working order, and in a condition to treat successfully forty tons of low-grade ore.

PAY ROCK.—This company is going to build a concentrating-mill at Silver Plume. It is stated that the ground has already been purchased and the arrangements for the erection of the building made.

SNOW DRIFT.—Major Fulton is making preparations to work this mine, on Republican Mountain, on a more extensive scale, and is putting in pipes and a pump to drain the water from the shaft, intending to sink it to a much greater depth.

CHAFFEE COUNTY.

CUMMINGS.—Reports state that three fourths of this mine have been sold for $15,000.

GILPIN COUNTY.

DECATUR.—The company is working, says the *Register Call*, on both the Helmer and Decatur mines in Russell District. The 170-foot level west from the main shaft of the Decatur is in 20 feet, and has shown a marked improvement in the character of the ore encountered. The superintendent expects in driving 20 feet farther, to cut the ore-body which the shaft followed down most of the distance from the surface, and which yielded such large profits when worked by the Helmer Brothers in 1869.

LAKE COUNTY.

Late Leadville exchanges contain the following:

AMIE.—Some very fair galena and carbonate ores are encountered in No. 3 shaft. The discovery, which was made some time ago, seems to hold out with remarkable regularity and strength.

GILT EDGE.—Some months ago, the Elgin Mining and Smelting Company secured an injunction against the Iron Silver Mining Company, restraining that corporation from extracting ore from the Gilt Edge mine. This suit was followed by a cross-bill, by which it was sought also to prevent the Gilt Edge owners from working their property. November 3d, a verdict was received from the United States Court at Denver, deciding the questions involved in favor of the Gilt Edge mine.

GORDON.—This property, in the neighborhood of Twin Lakes, has a shaft 105 feet in depth, and three tunnels respectively 35, 130, and 180 feet in length, showing the vein well defined and in place. The average value of eleven shipments of ore to the Grant Smelting Company was five and a half ounces in silver and four and a half ounces in gold, while one lot of five tons gave eleven ounces in gold.

HIBERNIA.—Nothing more will be done with the reorganization and the working of the property until December 22d, when all redemption ceases.

LITTLE PITTSBURG.—The official report for the month of October shows: Ore shipped, 1622 tons; settled for, 1751 tons; cash received, $9081.

ROBERT E. LEE.—Mr. A. B. Wood, the discoverer of the lead carbonates in the Leadville District, and one of the original locators of the Iron Silver mineral belt, has accepted the general supervision of the affairs of this company. The present financial manager and superintendent will, it is stated, both remain with the company as heretofore.

SHIELDS.—During the past month, considerable ore has been shipped, principally to the La Plata smelter, from which returns have been received, as follows: 235, 100, 67, and 30 ounces in silver to the ton respectively. The shaft has been sunk 73 feet deeper during the past month, and levels have been started in each direction on the vein. The ore-streak at this depth has a width of about two feet, and contains a great deal of high-grade ore.

SMUGGLER.—During the past week, a very fine body of ore was struck contiguous to the north shaft, from which three loads of ore were shipped. The mineral is apparently of much higher grade than that extracted from the old workings farther south.

LA PLATA COUNTY

A dispatch to the Denver *Republican* says that the furnace at Durango was blown in October 27th. The secretary and acting president of the company is in town, and, it is understood, has given orders for the building of two new stacks, and roasters to correspond.

PITKIN COUNTY.

The North Texas Milling and Smelting Company is to build a smelter and concentrating-works at Aspen. The same process will be adopted as is used at the Grant works at Denver.

PUEBLO COUNTY.

THE PUEBLO SMELTING AND REFINING COMPANY.—We learn that Mr. Mather has retired from the firm of Mather & Geist; a new company, in which Boston capitalists are prominently interested, having been formed. Mr. Thomas Nickerson, of Boston, is president; Mr. A. W. Geist, superintendent and general manager; Mr. M. D. Thatcher, secretary and treasurer. Messrs. Thomas Minns and A. B. Lawrie, both of Boston, are directors of the new company.

SAN JUAN COUNTY.

The *Herald* says that there is quite a large amount of work going on at the mines at Howardsville. The French Boys Mining Company will work its property all winter; Paul F. Lobanoff will continue to push developments on the many mines he is interested in; and a number of others in Cunningham Gulch will be developed this winter.

SUMMIT COUNTY.

COLORADO LAND AND MINERAL COMPANY.—The property consists, says the Leadville *Herald*, of the Bernadotte, Maximus, Maximus Extension, and Orestes, and is known in the Ten Mile District as the Maximus mines. A large force of men has been employed developing the property since the first of August. They have driven one tunnel 140 feet, one cross-cut tunnel 53 feet, and have just started three others that are in from ten to twenty feet, all showing fine mineral and true fissure-veins. A quantity of mineral has been taken out from the surface by opening cuts on the veins, which have given returns from the smelter running from $150 to $200 per ton. A large force of men will be employed during the winter to carry out the development-work, which will open the property completely.

ROBINSON.—The mine, says the *Tribune*, continues to improve daily in its work of development. A large body of ore has been uncovered at the east shaft, and a new cage and other machinery have arrived, which will be placed in the shaft, and active work commenced at this portion of the mine. The work is continued in the various levels, and the output is now from sixty to eighty tons of ore per day, which could be increased if cars in which to ship could be obtained.

The concentrating-works run by Mr. W. L. Doncaster, with Mr. B. T. Brooks as superintendent—formerly known as the Smythe concentratig-works—continue to run very satisfactorily. From twenty to twenty-five tons of ore are run through in the twenty four hours by the six jigs used.

WHITE QUAIL.—The Ten Mile *News* says that the mine and smelter are in the hands of the sheriff. They were seized in a suit for $19,000, in which George R. Fisher is plaintiff. It is stated that the smelter has lost money every day that it has been run, and the mine has not realized the expectations that were formed of its resources.

DAKOTA.

CALEDONIA.—The superintendent reports for the week ended October 28th: Ore extracted and delivered to mill 1040 tons. Sixty stamps at work. Work confined to extracting ore. Stopes are looking well, and every thing is running smoothly at both mine and mill.

FATHER DE SMET.—The superintendent reports, October 20th: Herewith express company's receipts for bar No. 145 (663 40-100 ounces gold bullion), the result of run of mill for first half of October. A portion of the mill has been idle while we were putting in two new mortars, which are now in place. On the 15th inst., I drew for $22,500, which amount was for all expenses for the month of September. The report of the superintendent from October 22d to November 1st, shows: Ore extracted from the first level, 1500 tons; from the second level, 1500 tons; total, 3000 tons. Ore milled, 3000 tons. Justice drift advanced eleven feet; drift in, 155½ feet.

HOMESTAKE.—The financial statement for the year ended May 31st shows the following: Balance in treasurer's hands June 1st, 1881, $159,342; receipts from bullion, $1,291,464; disbursements, $796,284; paid in dividends, $422,500; cash in treasurer's hands June 1st, 1882, $315,585.

GEORGIA.

The prospects of the mines in the vicinity of Auraria are good. Improvements are making at the different mines. The supply of water is somewhat larger than last month, but still the ditches do not afford enough to supply the demands.

CONSOLIDATED GOLD MINING COMPANY.—The work preparatory to building the 40-stamp mill on the Ibex property is rapidly progressing.

GOLDSMITH GOLD MINING COMPANY.—The superintendent of the Keystone mine,

owned by this company, reports that the placer deposits are larger than they at first anticipated. The company intends to run two or three little giants shortly. It is now sluicing, and expects large results.

IDAHO.

ELKHORN.—The present output of first-grade ore is 20 tons daily. The vein is opened to a depth of 150 feet, and at that depth shows much higher-grade ore than at the surface. The ore is hauled to the Philadelphia smelter.

TYNDALL LODE.—A correspondent of the Salt Lake *Tribune* says that the lode has now been definitely traced seven miles. A number of claims on the lode show large outcrops of ore. The Daisy Black has been cross-cut at one point, the ore there being forty feet wide—with twelve feet of solid argentiferous galena. The Ingersoll has now been cross-cut for thirty feet, all in ore—steel galena, lead, carbonate, and oxide of copper. Shipments will yet be made this fall. Recent assays give steel galena, 60 per cent lead and 349·99 ounces silver per ton; Ingersoll copper, 24 per cent copper and 107·4 ounces silver per ton. Outcrop of this ore thirty feet wide, walls perfect, and vein nearly vertical. Work will be continued all winter on the Ingersoll; a tunnel will be driven along the vein.

MEXICO.

A dispatch to the *Tribune* says that it is reported from Guaymas, that the Yaqui and Mayo Indians are on the war-path, and are rendering mining and other operations unsafe.

From a letter written to the *World*, we take the following:

The La Blanca Mining Company, at Pachuca, at the depth of about 500 feet, has just struck a body of ore over six feet wide and yielding over 400 ounces in silver and twenty-five grains of gold per ton. The new strike is within seventy feet of the point at which the adjoining mine, the Santa Gertrudis, is now yielding her bonanza. The two mines are about to be connected by drifts, when the mutual facilities for working will be much increased. It is stated that about $100,000 have been spent in the development of the mine. Very rich placer mines have been discovered lately near Rosario, in the State of Sinaloa. They extend over a distance of fourteen kilometers as far as explored. The assays made have yielded very large results.

Mining enterprise is very active in the Tlapujahua District, and some of its once famous mines are already resuming production. The wood can be delivered there at $4 per cord; water is abundant for running large works, and the railroad has been run within seven miles of the town and mines. The mineral belt is three miles wide, and is everywhere studded with veins rich in silver and gold.

New deposits of ore are constantly found in the mountains of Ferta, in the State of Zacatecas, and the developments are giving splendid results. A colony of about one thousand has already been established, is steadily growing and finds ample employment in the mining industries prevailing there.

The Minister of Public Works has sent circulars to the authorities in all the States of the republic requesting statistical information regarding all enterprises in mining, agriculture, etc. The object is to form a detailed history of the mineral wealth and agricultural prospects of each State as a guide for colonists and settlers.

MICHIGAN.

CONGLOMERATE.—This Philadelphia company, of which Mr. Henry C. Davis is president, has issued a statement of progress. Up to the 1st of October, 9913 feet of drifting and sinking have been done. From openings, 40,367 tons of rock were stamped during the first five months of the year, yielding 727,230 pounds of mineral, or about 0·9 per cent., equal to 564,622 pounds of ingot copper, netting $90,399.52. In June, stamping was commenced on rock from stopes and openings in about equal proportions; and up to the end of September, 16,363 tons had been crushed, yielding 500,925 pounds of mineral, or 350,647 pounds of ingot. As the percentage of mineral was 1·53, it is shown that the stopes carry over two per cent of copper, which is very high. This crushing of stope-rock is merely exploratory, the mill being only used to give a practical demonstration as to the value of the rock. Regular crushing will begin only when the new mill is ready. Up to the 31st of August, the company had expended $580,142.75, including $256,721.79 for underground development and equipment; $109,657.04 for surface work; $76,026.88 for additions to the plant on the property; and $137,737.04 for new construction. Of this, $218,553 were expended during the first eight months of this year. The sales of copper amounted, up to the end of September, to $130,913.23, and 112,683 pounds of copper were in transit unsold. A statement of the financial condition of the company shows that its resources foot up to $194,666 9 , including $30,563.35 cash; $86,895 balance of installment called; $61,208.61 supplies, etc., at mine; and $16,000 copper. The liabilities are $59,450.81. The grading of the railroad to Lac la Belle, six miles and three quarters, is pushed, and the foundation for the new mill is completed with a large portion of the building erected and the heaviest machinery on the spot. It is expected that the new mill will be completed by September next year.

NEVADA.

BOWMAN.—Operations were resumed at the mine November 1st.

EUREKA CONSOLIDATED.—The managers claim that the contractors are under obligations to make pump repairs free of cost to the company.

TUSCARORA DISTRICT.

A correspondent of the *True Fissure* says that the principal mines of this district are now the Navajo, Independence, Grand Prize, Argenta, Belle Isle, and North Belle Isle. The main shaft of the Navajo is down nearly 450 feet, and at that depth the vein shows a decided improvement on the levels above; in fact, the indications are that, as greater depth is attained, the vein will increase in size and in value. The Independence is down in its main shaft 600 feet, and is extracting ore of a rich quality, which, in connection with the ore from the Navajo, is milled at the latter's mill. The combined output is now averaging $100,000 per month. Work at the Grand Prize is pushed with vigor, and the water, which at one time caused so much trouble, is now under control. The Navajo mill contains only ten stamps, and, although it was an old style mill, so many improvements have been added that it does its work in a very satisfactory manner. Another roaster has been added lately, which permitted an improvement to be made in the manner of desulphurizing and chloridizing that has added four per cent to the working results, and a saving of twenty-five per cent in salt. The battery crushes at the rate of one and one third tons per stamp, and the workings average ninety-four per cent.

NEW MEXICO.

Recent telegraph dispatches state that a rich silver lead has been struck on the creek just below Socorro.

UTAH.

CACTUS.—As soon as the hoisting-machinery is in place, active work will be resumed on this company's property in Copper Gulch. The vein opened up by a tunnel contains, it is said, rich ore.

FRISCO.—Reports state that this company intends to erect new hoisting-works of great capacity at the Carbonate and Rattler mines.

SILVER REEF.

The *Miner* reports as follows:

BARBEE & WALKER.—The mine is steadily improving in value, as new developments are made below on the different levels. Regular bullion shipments are made.

STORMONT.—This month's bullion shipments are in excess of any previous month for the last six months, and present movements go to show that the property is in every way managed with satisfactory results. Eight or ten teams are constantly engaged in transporting ore of a good grade from the mines to the mill.

FINANCIAL.

Gold and Silver Stocks.

NEW YORK, Friday Evening, Nov. 10.

Business has been dull at the Mining Bxchanges during the week, and without special interest until to-day, when the market suffered a general decline, all the stocks, with, perhaps, the single exception of the Tuscaroras, feeling the weakness. The Comstock shares followed the lead of the San Francisco market and were weak, while the Green Mountain stocks have to-day fallen to their lowest market price. Decatur, which was so strongly bolstered up a few weeks ago, has been allowed to decline to its probable real value. Bradshaw is another stock taken up by the manipulators of the market; but the price could not be kept up long to a very high figure, although it is strong at the price quoted. The sales of mining shares at all the Exchanges aggregate 367,505 shares, as against 608,954 last week.

The Comstock shares have been moderately active at weak prices. California sold from 27@22@23c., with a business of 4500 shares. Consolidated Virginia had a fair business, but it was weak; it sold from 76@64c. Sierra Nevada was very quiet at $6.75. Union Consolidated sold to the extent of 150 shares at $6.25@$6.50. Ophir was quiet and steady, selling at $3.88@$3.75. Consolidated Imperial sold at 6c. Best & Belcher only records one transaction, and that at $5.50. Sutro Tunnel has been active at steady prices, selling from 28@34@28c.

The Leadville stocks have been quiet and a little weak. Amie was quiet and irregular, selling at 10@12@11c. Chrysolite had an active business at prices a little weak; it sold from $1.50@$1.40, with transactions of 10,200 shares. Hibernia was quiet at 3c. Iron Silver was strong, under a moderate business, selling from $2.30@$2.55@$2.45. Leadville was quiet and a little weak, selling at 70@63c. Little Chief had a fair business at weak prices, selling from 45@33@37c. Little Pittsburg was quiet and weak at 95@85@88c. Climax sold at 5c., and Miner Boy a 5c

The Bodie stocks were very quiet and were a little weak. Bodie Consolidated sold to the extent of 400 shares at $3.88@$3.45. Bulwer was quiet and a little weak at $1.20@$1.10. Standard was also a little weak, under a small business, selling at $5.50@$5.25.

The Tuscarora stocks were quite active and very strong. Grand Prize sold at 50c. Independence was quite strong under a moderate business, selling from 90c.@$1.30@$1.25. Tuscarora sold at 9@7c., with a business of 7000 shares. Navajo was quiet and a little weak at $6@$5.50. Belle Isle records a very active business at strong prices; it sold from 40@65@55c. North Belle Isle was also very strong, under a fair business, selling from 25@50@40c.

In the miscellaneous list, the Green Mountain stocks have been quite active, but at very weak prices. Green Mountain was very active and quite weak, selling from 56@35c. Rising Sun was quiet at 6@5c. Cherokee had a fair business at weak prices, selling from 15@10@11c. Robinson Consolidated has been quite active at irregular prices; it sold from $1.55@$1.40, closing at $1.50 to-day. Bradshaw records a very large business, the sales aggregating 50,800 shares. The price of the stock has been forced up to a strong figure, at one time reaching 60c., but it declined to 45c. and closed at 48c. Central Arizona has been quiet and steady at 55c. Decatur has been active, but at very weak prices, selling from 60@20c. Oriental & Miller has been active and steady, selling at 16@15c. Silver Cliff declined to-day to 58c., closing at 64c. It has been very active, the dealings aggregating 18,200 shares. South Hite, new stock, has been quiet and steady at 32@30c. South Pacific has been very active at steady prices, selling at 12@13c. The State Line stocks have been quiet and steady. Nos. 1 & 4 sold at 5@4c., and Nos. 2 and 3 at 15@13c. Washington has been very active at irregular prices, selling from 13@19@15c.

Messrs. Watson & Gibson, of this city, quote Lake Valley stocks as follows: Sierra Grande, $4.15@$4.30; Sierra Bella, 90@95c.; and Sierra Apache, 70@75c. It is stated that the examination of the titles is delaying the listing of the stocks here. We are informed that efforts are making by parties interested in the mines to place considerable blocks of stock abroad, with what success is not known.

That portion of the Chrysolite in which the fire took place has been leased to the former financial agent of the company, who goes over the caved ground at his own risk and expense, paying the company by a share in the ore, which the company agrees to hoist for him.

Mr. H. S. Bradford, an officer of the Green Mountain Gold Mining Company, of California, has issued a "confidential" circular to the stockholders of that company, in which the present condition of that mine is depicted in a woful light. In April, 1882, the mine was in debt to the extent of $55,000. This was reduced after starting the mill after a period of idleness to $27,500, by profits obtained from the Black Chimney, then exhausted. Work was continued on the Sulphuret ledge, at first in fair ore, but then in so low a grade that it ran down to $2 per ton. This caused a monthly deficit, amounting in August to $3500, and the debt again ran up to $33,000, of which $22,000 are debts at the mine. The holders of this debt have suddenly, it seems, developed a peculiar anxiety for their money, so that the directors must raise it. They propose two schemes, either to raise $50,000 mortgage bonds, to be issued at 90, for which the consent of the stockholders has already been given, or the issue of 75,000 additional shares. The company has a ninety-two stamp mill, worth at least $75,000, and other property, which would render the security good, if there was assurance that it would be judiciously expended. As for the scheme of raising money by selling stock below par value, aside from the bad effect it has, it is questionable whether it can be lawfully done. Outside stockholders should get legal advice on this point. As to the condition of the mine, it may, so far as we are informed, be briefly summed up as follows, and we understand that such is the drift of the report made by Mr. H. W. Patten, of Virginia City, Nevada, a very trustworthy authority. There is not now any

DIVIDEND-PAYING MINES.

NAME AND LOCATION OF COMPANY.	SHARES. No. in 1000's	SHARES. Par Value.	ASSESSMENTS. Lev'dtodate in 1000's.	ASSESSMENTS. Date and amount per share of last.	DIVIDENDS. Total paid date in 1000's.	DIVIDENDS. Date and amount per share.	HIGHEST AND LOWEST PRICES PER SHARE AT WHICH SALES WERE MADE. Nov. 4. H.	Nov. 4. L.	Nov. 6. H.	Nov. 6. L.	Nov. 7. H.	Nov. 7. L.	Nov. 8. H.	Nov. 8. L.	Nov. 9. H.	Nov. 9. L.	Nov. 10. H.	Nov. 10. L.
Alice, Mon..	400	25	*	.....	400	De 81 10	2.15	.....	.....	.....	.....	.....	2.15	.....	.....	.....	.....	.....
Amie Con., Co....	500	10	*	.....	305	My 80 10	.11	.10	.....	.....	.....	.....	.12	.....	11	.....	.11	.....
Atlantic, Mich....	40	25			140	Fe 82 2 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Argenta, Ne.....	100	100	200	Se 82 25	40	Fe 80 20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bar & Walker, Ut.	100	10	*	.....	60	No 80 10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bassick, Co.....	100	100	*	.....	25	Fe 80 25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Belle Isle, Ne.....	100	100	65	My 82 10	300	De 79 25	.50	.40	.50	.42	.....	.....	.60	.56	.65	.55	.55	.52
Black Bear, Ca...	90	100	15	Se 79 50	889	Se 82 30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Belcher, Ne.....	104	100	2562	Se 82 25	15397	Ap 76 1 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bodie Cons., Ca...	100	100	125	De 81 50	1295	No 82 20	3.88	.....	.....	.....	.....	.....	.....	.....	3.75	.....	3.50	3.45
Bos'n & Mon, Mon.	200	10			200	No 82 05	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Breece, Co.....	200	25	*	.....	2	Fe 80 1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bulwer, Ca....	100	100	30	De 77 50	120	No 82 10	1.20	1.10	.....	.....	.....	.....	.....	.....	1.15	1.10	.....	.....
California, Ne....	540	100	530	Se 82 20	31320	De 79 50	.27	.....	.28	.25	.....	.....	.....	.....	.....	.....	.24	.22
Cal. & Hecla, Mch.	100	25			22350	No 82 5 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Caribou Con., Co.	100	10	*	.....	50	Mr 80 10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Carolina Q'n, N. C.	100	2			8	Oc 82 02	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Castle Creek, Id..	100	1			18	No 82 03	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cataipa, Co.....	300	10	*	.....	180	My 81 20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chrysolite, Co....	200	50	*	.....	1600	De 81 50	1.50	1.40	1.50	1.40	.....	.....	1.50	.....	1.45	1.40	1.45	1.40
Climax, Co.....	200	10	*	.....	180	Au 80 30	.....	.....	.05	.....	.....	.....	.....	.....	.....	.....	.....	.....
Coas. G. Mg., Ga.	100	5	*	.....	64	Au 82 04	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cons. Va., Ne.....	540	100	897	Au 82 30	42930	Au 80 50	.75	.70	.74	.73	.....	.....	.76	.75	.75	.72	.70	.69
Copper Queen, Ar.	250	10	*	.....	500	Se 82 50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Crown Point, Ne.	100	100	2673	Fe 82 25	11588	Ja 75 2 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
D'dw'd-Terra, Dk	200	25	*	.....	880	No 82 15	.....	.....	.....	.....	.....	.....	4.00	.....	.....	.....	.....	.....
Dunkin, Co.....	200	25	*	.....	200	Ju 81 7½	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Eureka Cons., Ne.	50	100	100	My 76 1 00	‡	Jy 82 25	13.50	.....	14.00	.....	.....	.....	.....	.....	.....	.....	.....	.....
Evening Star, Co.	50	10	*	.....	1225	Oc 82 53	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Excelsior, Ca.....	100	100	300	Ja 82 1 00	875	Oc 80 25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fa. de Smet, Dk..	100	100	.....	.....	510	No 82 20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Findley, Ga.....	200	1	*	.....	8	My 79 1½	.....	.....	.....	.....	.....	.....	.09	.....	.....	.....	.....	.....
Freeland, Co.....	200	25	*	.....	50	My 80 25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Glass-Pend., Co..	250	20	*	.....	25	My 81 10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gold Stripe, Ca..	150	10	*	.....	76	Jy 81 15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.10	.....
G'ld & Curry, Ne..	108	100	3473	Se 82 50	3826	Oc 70 $10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Grand Prize, Ne..	100	100	395	Se 82 25	450	Se 80 25	.....	.....	.55	.....	.....	.....	.....	.....	.....	.....	.....	.....
Great Eastern, Dk	300	1	*	.....	16	Jy 80 01	.....	.....	.....	.....	.....	.....	.02	.....	.02	.....	.....	.....
Gr. Mountain, Ca.	125	10	*	.....	212	No 81 7½	.55	.....	.56	.....	.....	.....	.52	.49	.44	.39	.43	.35
Hale & Nor., Ne..	112	100	4006	Se 82 50	1598	Ap 71 5 00	1.75	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hall-And's'n, N.S.	150	1			7	Ja 82 05	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hecla Con., Mon.	30	50	.....	.....	342	Ap 82 50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hibernia, Co.....	300	25	*	.....	180	Jy 81 40	.03	.....	.03	.....	.....	.....	.....	.....	.....	.....	.03	.....
Homestake, Dk....	100	100	200	Ap 78 1 00	1962	Oc 82 40	17⅜	.....	.....	.....	.....	.....	.....	.....	17½	.....	.....	.....
Horn-Silver, Ut..	400	25	*	.....	1700	No 82 75	.....	.....	8.25	8.00	.....	.....	7.13	6.75	7.25	.....	.....	.....
Hukill, Co.....	200	5	*	.....	210	De 78 10	.13	.12	.....	.....	.....	.....	.....	.....	.....	.....	.12	.....
Indep., Ne.....	100	100	185	Fe 82 15	225	Se 79 05	.....	.....	.95	.9	.....	.....	1.10	1.00	1.25	1.05	1.30	1.25
In. Queen, Ne....	125	2	12	No 79 10	355	Se 82 02	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Inyo, Ca.....	100	5	*	.....	45	Ap 82 05	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Iron Silver, Co...	500	20	*	.....	800	Oc 82 20	.....	.....	2.40	2.30	.....	.....	.....	.....	2.55	2.40	2.50	2.45
Jocuistita, Mex...	100	100	.....	.....	750	No 82 1 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
La Plata, Co.....	200	10	*	.....	610	Se 82 30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Leadville C., Co..	400	10	*	.....	250	No 82 05	.70	.....	.....	.....	.....	.....	.65	.....	.....	.....	.63	.....
Leeds, Ut.....	60	100	87	Ju 82 50	78	Oc 78 15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Little Chief, Co..	200	50	*	.....	700	Au 80 50	.....	.....	.40	.....	.....	.....	.41	.40	.40	.37	.38	.35
Little Pitts., Co..	200	100	*	.....	1350	Mr 80 50	.95	.....	.95	.9	.....	.....	.....	.....	.90	.....	.92	.85
Martin White, Ne	100	100	950	Se 82 25	90	Jy 79 30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Moose, Co.....	200	10	4	.....	550	Mr 78 25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Morning Star, Co.	100	10			515	Oc 82 25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Navajo, Ne.....	100	100	235	Mr 82 20	75	No 82 25	.....	.....	6.00	5.75	.....	.....	5.50	.....	5.75	.....	5.50	.....
N. Y. & Colo., Col.	50	20			25	Jy 79 10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
N'h'n Belle, Ne...	50	100	.....	.....	2275	Oc 82 60	.....	.....	11.50	11.38	.....	.....	11.63	.....	.....	.....	.....	.....
N. Belle Isle, Ne..	100	100	55	Se 82 15	45	Se 82 15	.28	.25	.38	.30	.....	.....	.40	.38	.50	.44	.40	.38
Ontario, Ut.....	150	100	.....	.....	4775	No 82 25	.....	.....	.....	.....	.....	.....	37.50	.....	.....	.....	.....	.....
Ophir, Ne.....	100	100	3395	Jy 82 1 00	1595	Jy 82 1 00	3.88	.....	.....	.....	.....	.....	.....	.....	3.75	.....	.....	.....
Osceola, Mich....	50	25			810	Se 82 1 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Plumas, Ca.....	100	10	*	.....	151	Jy 79 8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Quicks. Pref., Ca.	43	100	.....	.....	654	Ju 82 6 00	41.50	.....	.....	.....	.....	.....	41.50	41.00	.....	.....	41.00	.....
" Com., Ca.	57	100	.....	.....	151	Ju 82 40	.....	.....	.....	.....	.....	.....	.....	.....	8¼	8¼	.....	.....
Quincy, Mich.....	40	25	.....	.....	3230	Au 82 5 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rising Sun, Ca...	150	5	*	.....	52	My 81 7½	.06	.....	.....	.....	.....	.....	.....	.....	.....	.....	.05	.....
Robinson C., Co..	200	50	*	.....	575	No 81 50	1.45	.....	1.55	1.45	.....	.....	1.50	1.45	1.40	.....	1.50	1.45
Robt. E. Lee, Co.	500	500	.....	.....	50	Jy 81 10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Savage, Ne.....	112	100	5748	No 82 50	4460	Ju 69 3 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sierra N'v., Ne...	100	100	5050	Se 82 1 00	102	Ja 71 1 00	6.75	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Silver King, Ar...	100	100	.....	.....	1200	No 82 25	13.00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Silver King, Co..	100	1	.....	.....	50	Au 81 10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Socorro, N. Mex..	2.5	100	.....	.....	4	Mr 82 ¾	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Spr'g Valley, Ca.	200	1	*	.....	50	Ja 81 25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Standard, Ca.....	100	100	.....	.....	3975	No 82 25	.....	.....	.....	.....	.....	.....	.....	.....	5.50	5.25	.....	.....
Starr-Grove, Ne..	200	10	*	.....	16	Ju 81 10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stormont, Ut.....	200	1	*	.....	155	No 81 05	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Joseph, Mo....	100	10	*	.....	370	Se 82 20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tip Top, Ar.....	100	100	170	Mr 80 50	100	No 81 20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tombstone, Ar....	500	25	*	.....	1350	Ap 82 10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vizina, Ar.....	200	25	.....	.....	140	Mr 82 10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Yellow Jacket....	120	100	5358	Fe 82 1 00	2184	Au 71 2 50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

* Non-assessable. † The Deadwood has previously paid $275,000 in eleven dividends, and the Terra $75,000. ‡ 48175.

SALES.—Alice, 300; Amie Consolidated, 5,200; Belle Isle, 13,815; Bodie Consolidated, 400; Bulwer, 1500; California, 450; Chrysolite, 10,200; Climax, 6500; Consolidated Virginia, 9175; Deadwood, 300; Eureka Consolidated, 150; Findley, 200; Gold Stripe, 100; Grand Prize, 200; Great Eastern, 2000; Green Mountain, 15,900; Hale & Norcross, 100; Hibernia, 3000; Homestake, 250; Horn-Silver, 565; Hukill, 300; Independence, 2150; Iron Silver, 3200; Leadville, 550; Little Chief, 8400; Little Pittsburg, 800; Navajo, 1100; Northern Belle, 250; North Belle Isle, 6300; Ontario, 25; Ophir, 280; Quicksilver, preferred, 400; Common, 300; Rising Sun, 3400; Robinson Consolidated, 45,300; Sierra Nevada, 90; Silver King, 40; Standard, 200. Dividend shares sold, 141,747.

supply of profitable ore, contrary to the statement given out some months ago that there was eighteen months' supply on hand. When the lower tunnel has, however, reached the Black Chimney, the productive part of the mine, there will be a six years' supply of ore on hand. Stockholders will not care to go into the question whether the management was to blame in not driving this important development-work more persistently. It is a question with them how to raise the money to pay the debt and accumulate funds to drive the lower tunnel, which it is understood will take a year. An effort should be made to see how strong the outside element is, before the stock is sacrificed.

The annual meeting of the stockholders of the Colorado Central Consolidated Mining Company was held on Thursday last, and the following gentlemen were elected trustees for the ensuing year: Paul Lichtenstein, Herm. R. Baltzer, John Pondir, George W. Hall, H. M. Castle, Paul O. d'Esterhazy, S. Gruner, C. F. Schramme, L. B. Stone. At a subsequent meeting of the trustees, the following officers were chosen: Paul Lichtenstein, President; Herm. R. Baltzer, Vice-President; Paul O. d'Esterhazy, Secretary and Treasurer.

DIVIDENDS.

The Carolina Queen Mining Company, of North Carolina, has declared a dividend of two cents per share, payable at New York.

The Deadwood-Terra Mining Company, of Dakota, has declared a dividend of $30,000 for October, payable on the 20th inst. Transfer-books close on the 15th.

The Jocuistita Mining Company, of Mexico, has declared its sixth dividend of $1 per share, or $100,000, payable on the 29th inst. Books close on the 25th inst.

The Ontario Silver Mining Company, of Utah, has declared its eighty-fifth dividend (for October) of $75,000, payable on the 15th inst. Transfers close on the 10th.

The Silver King Mining Company, of Arizona, has declared a dividend of twenty-five cents per share.

The Sultan Mountain Mining Company, of Colorado, has declared a dividend of $12,500, payable November 15th. Transfer-books close on the 11th.

MEETINGS.

Animas Silver Mining Company, 35 Broadway. Annual meeting of stockholders and election of trustees, November 28th, twelve M. to one P.M. Books close November 20th, open November 29th.

Camuchin Consolidated Silver Mining Company, 35 Broadway. Annual meeting of stockholders and election of trustees, November 28th, twelve M. to one P.M. Books close November 20th, open November 29th.

Consolidated Batopilas Silver Mining Company, 82 Broadway. Annual meeting of stockholders and election of trustees, November 27th, twelve M. to on, P.M. Books close November 17th, open November 17th.

Descubridora Consolidated Silver Mining Company, 82 Broadway. Annual meeting of stockholders and election of trustees, November 28th, twelve M. to one P.M. Books close November 20th, open November 29th.

Forest Queen Mining Company. Annual meeting of stockholders at the office of the company, Denver, Colo., December 7th.

Hope Mining Company. Annual meeting of stockholders for the election of thirteen trustees, at the office of the company, 417 Olive street, Room 7, St. Louis, Mo., November 13th. Books close November 6th, open November 15th.

South Silver King Mining Company, 95 Wall street. A special meeting of stockholders, November 18th, one P.M.

Valencia Consolidated Mining Company, 35 Broadway. Annual meeting of stockholders and election of trustees, November 28th, twelve M. to one P.M. Books close November 20th, open November 29th.

REVIEW OF THE SAN FRANCISCO MARKET.

The San Francisco market has been quiet and steady. The Comstock shares were, until yesterday, exceptionally firm, with very little change in prices. Yesterday, however, showed a general decline in the whole list, and the market closed weak. The outside stocks were steady. The Tuscaroras were the favorites and were strong.

SAN FRANCISCO MINING STOCK QUOTATIONS.

Daily Range of Prices for the Week.

NAME OF COMPANY.	CLOSING QUOTATIONS. Nov. 3.	Nov. 4.	Nov. 6.	Nov. 7.	Nov. 8.	Nov. 9.
Alpha	1⅜	.....	.....	.....	.....	.....
Alta	½	7-16	13-32	.....	7-16	13-32
Bechtel	.....	1-16	.....	.....	1-16	1-16
Belcher	29-32	29-32	27-32	.....	27-32	¾
Best & Belcher	5¾	5¾	5¾	.....	5⅞	5½
Bodie	3¾	3¾	3⅞	.....	3⅞	3½
Bullion	3-16	.....	¼	.....	.....	¼
Bulwer	1¼	1¼	1¼	.....	.....	.....
California	5-16	¼	5-16	.....	5-16	¼
Chollar	1½	1⅛	1¾	.....	1¾	1½
Con. Virginia	¾	¾	¾	.....	¾	11-16
Crown Point	1½	1⅝	1½	.....	1½	1⅜
Eureka Con	13	.....	12½	.....	.....	.....
Exchequer	11-32	.....	11-32	.....	.....	11-32
Gould & Curry	3½	3½	3½	.....	3½	3⅜
Grand Prize	7-16	.....	.....	.....	13-32	3-16
Hale & Norcross	1⅝	1⅝	1¾	.....	1¾	1½
Manhattan	.....	.....	.....	.....	.....	.....
Martin White	3¾	3¾	3¾	.....	3½	2¾
Mexican	4⅜	4¼	4⅜	.....	4½	3⅜
Mono	13-32	11-32	5-16	.....	5-16	¼
Mount Diablo	.....	.....	.....	.....	3½	3⅜
Navajo	.....	5⅝	5⅝	.....	5¾	5¾
Northern Belle	.....	11¼	11⅜	.....	.....	11½
Noonday	5-16	5-16	.....	.....	5-16	.....
Ophir	3¾	3⅜	3¾	.....	3¾	3
Oro	.....	5-32	.....	.....	3-32	.....
Overman	3-16	3-16	3-16	.....	.....	3-16
Potosi	1⅝	1⅜	1½	.....	1⅝	1⅜
Savage	15-16	15-16	1	.....	29-32	27-32
Scorpion	15-16	29-32	15-16	.....	1	27-32
Sierra Nev	7	6¾	7	.....	6¾	5⅞
Silver King	12½	12½	12½	.....	.....	.....
Tip Top	.....	2	.....	.....	2½	.....
Union Con	5	5	5½	.....	6½	5⅝
Wales Con	.....	.....	.....	.....	3-16	¼
Yellow Jacket	1⅝	1⅝	1⅝	.....	1⅝	1¼
.....	.....	.....	.....	.....	.....	.....

Copper and Silver Stocks.

Reported by C. H. Smith, 15 Congress street, Boston, Stock Broker and Member of the Boston Mining and Stock Exchanges.

BOSTON, Nov. 9.

There is but little doing in mining stocks of any description, and the prospect of an active business in this class of securities is not very encouraging. The dealings in copper stocks are very limited, and outside of one or two of the dividend-paying mines, the record of sales can hardly be considered a market. There is no speculative demand for stocks, and until there is a movement in ingot copper, we do not look for any improvement in that respect. The mines are producing well, and the large companies are earning good dividends for their stockholders, which has a tendency to keep the market firm for this class of stocks. In the silver mining shares, the market is dull, but prices are fairly steady. Calumet & Hecla advanced from

NON-DIVIDEND PAYING MINES.

NAME AND LOCATION OF COMPANY.		NUMBER OF SHARES.	Par.	ASSESSMENTS. Total levied to date.	ASSESSMENTS. Date and amount of last.	HIGHEST AND LOWEST PRICES PER SHARE AT WHICH SALES WERE MADE. Nov. 4. H.	Nov. 4. L.	Nov. 6. H.	Nov. 6. L.	Nov. 7. H.	Nov. 7. L.	Nov. 8. H.	Nov. 8. L.	Nov. 9. H.	Nov. 9. L.	Nov. 10. H.	Nov. 10. L.
Advance																30c	
Albion, s. L	Nev.	150,000	100	397,500	Jun. 82	25											
Allouez	Mich																
Alpha	Nev.			420,000	Mar. 82	50											
Alta	Nev.	100,800	100	1,641,600	May 82	50											
Alta-Montana, G	Mon.	600,000	10	*			16c										
Am. Flag, s	Colo	125,000	10	300,000	Jun. 77	25											
Barcelona, G	Nev	200,000	25	*				9c	8c			8c		9c			
Battle Creek																	
Bear Creek	Cal.	300,000	1													26c	
Beauce																	
Bechtel Con., G	Cal.	100,000	100	175,000	Nov. 82	10											
Best & Belcher, G. S	Nev.	100,800	100	1,295,390	Jul. 82	50										5.50	
Big Pittsburg, S. L	Colo	200,000	100	*													
Black Jack, G	Cal.	100,000	2½														
Bonanza Chief	Mon	1,000,000	1	*													
Bondholder	Colo	200,000	2½														
Boston Con., G	Cal.	100,000	100	95,000	Oct. 82	25			5c								
Boulder Con																	
Bradshaw, S	Ariz	225,000	10				45c	39c	60c	49c		58c	49c	49c	45c	50c	47c
Buckeye	Colo	100,000	5	*													
" pref							35c	31c	34c								
Bull-Domingo, S L	Colo	200,000	50	*								4c					
Bullion, G. S	Nev.	100,000	100	3,747,000	Oct. 82	50											
Bye and Bye	Ariz	100,000	10	*													
Calaveras, G	Cal.	500,000	1	*													
Clav'r'a W.&M.Co	Cal.																
Cal., B. H., G	Dak.	100,000	100	480,000	Au. 82	15						1.40					
Carbonate Hill, S L	Colo	200,000	10														
Catskill, S	Nev.	300,000	5														
Central Ariz'na, S	Ariz	100,000	100				55c		55c			55c					
Chapparal	Cal.											2c					
Cherokee, G	Cal.	150,000	10				11c		14c			11c	10c	12c	11c		
Chollar					Sep 82	50	1.75										
Clarence	Can.																
Colorado Cent'l, S	Colo	300,000	10														
Col'mb'a Con., G. S	Nev.	100,000	50														
Cons. Imp'ri'l, G. S	Nev.	500,000	100	1,425,000	Jan 82	10								6c		6c	
Con. Pacific, G	Cal.	60,000	100	141,000	Au 82	25											
Crescent, S L	Colo	300,000	10	*													
Crowell, G	N. C.	50,000	1	*								5c					
Dahlonega, G	Ga.	250,000	1	*													
Dardanelles, G	Cal.	100,000	10														
Decatur							60c	50c	60c	45c				49c	48c	48c	20c
Dunderberg, S	Colo	150,000	10	*													
Durango, G	Dak.	500,000	1	*					9c							9c	
Eastern Oregon																	
Empire, S	Ut'h	100,000	100														
Enterprise	Colo						60c		60c			60c	59c	60c		60c	59c
Exchequer	Nev.	100,000	100	630,000	Jan. 82	25											
Globe Copper	Ariz.						3c									3c	
Gold Placer, G	Colo	200,000	25	*													
Goodshaw, G	Cal.	100,000	100	200,000	Oct. 82	10						9c				5c	
Granville, S	N. C.	300,000	1	*													
Harshaw, S	Ariz	100,000	100														
Head Center, S	Ariz	100,000	100	160,000	May 82	20											
Hortense, S	Colo	200,000	10														
Index	Cal.																
Julia, G S	Nev.	110,000	100	1,394,000	Jan. 82	20											
Kossuth, G S	Nev.	168,000	100	421,200	Aug. 77	15											
Lacrosse, G	Colo	100,000	10				16c									16c	15c
Leviathan, S	Nev	100,000	100	380,000	Sep. 82	25											
Lucerne, S	Colo	500,000	10	*													
Mariposa Pref., G	Cal.	50,000	100	1,687,500	Dec. 81												
" Com., G	Cal.	100,000	100	1,950,000	Feb. 82												
May Belle, G	Cal.	100,000	100	84,000	Dec. 81	20											
Mayflower, S	Colo	100,000	100	*													
Mexican, G. S	Nev.	100,800	100	2,146,600	Oct. 82	$1	5.50	4.50						4.25		3.50	
Michoacan Synd	Mex.																
Miner Boy, G S L	Colo	500,000	10	*			5c										
Miller	Nev.	200,000	25														
Mono, G	Cal.	50,000	100	525,000	Oct. 82	25											
Moose Silver, S	Colo	300,000	10														
Nevada Syndi																	
North Standard, G	Cal.	100,000	100	20,000	Nov. 81	10											
N. Horn-Silv'r, S L	Utah	400,000															
Noonday	Cal.	60,000	10	148,000	Sep. 82	25											
Old Dominion, C	Ariz	200,000	100	*													
Oriental	Nev.	200,000	10														
Ori'nt'l & Miller, S	Nev.	400,000	25				16c		16c	15c		16c	15c	15c		15c	
Overman, G S	Nev.	115,200	25	3,604,700	May 82	25											
Potosi	Nev.	112,000	100	476,000	Sep. 82	25											
Quartz Creek			100									6c					
Rappahannock, G	Va.	250,000		*								12c	11c			12c	
Red Elephant, S	Colo	500,000	1	*													
Retort			10														
San Pedro, G S L	N. M	400,000															
Silver Cliff, S	Colo	200,000	25	*			85c	84c	85c	84c		85c	83c	83c	78c	79c	58c
Silver Islet	Can.		50														
Sonora Con	Mex.																
South Bodie, G	Cal.	100,000		100,000	Mar. 82	15											
South Bulwer, G	Cal.	100,000	100	195,000	May 81	25											
South Hite	Cal.	100,000	100		May 82	10	32c		30c							30c	
South Pacific	Cal.		5				13c	12c	13c	12c		13c		13c	12c	13c	
State Line No. 1, S	Nev.	200,000	1														
" No. 2, S	Nev.	200,000	25														
" No. 3, S	Nev.	200,000	25														
" No. 4, S	Nev.	200,000	25														
" Nos. 1 & 4, S	Nev.		25				5c		5c			5c				4c	
" Nos. 2 & 3, S	Nev.						15c	14c	14c			15c		14c		14c	13c
Sutro Tunnel	Nev.	1,000,000		*			29c	28c	29c			34c	28c	29c	28c	29c	28c
Taylor-Plumas			10				14c		15c	14c		14c		15c	14c	14c	
Tioga, G	Cal.	100,000		285,000	Oct. 82	10											
Tuscarora, S	Nev.	100,000	100	110,000	Oct. 81	15	9c	8c	8c			8c		7c			
Unadilla, S	Colo	500,000	100														
Union Cons., G. S	Nev.	100,000	1	1,460,000	Oct. 82	$1	6.25					6.50					
Utah	Nev.	20,000	100	1,340,000	Oct. 82	$1											
Vandewater, S	Nev.	200,000	100	*													
Washington, S	Ariz.	200,000	10				16c	13c	19c	14c		19c	17c	15c		16c	14c
Whalen Copper	Nev.	100,000	25				22.00		22½			22.50	22⅜	22⅜	22.50	22⅜	22.50
Wide West																	
Willshire, G	Cal.	50,000	5	*													

* Non-assessable.

SALES.—Advance, 200; Alta-Montana, 500; Barcelona, 3800; Best & Belcher, 125; Bear Creek, 300; Boston Consolidated, 100; Bradshaw, 50,800; Buckeye, preferred, 2000; Bull-Domingo, 900; Caledonia, B. H., 100; Central Arizona, 1200; Chapparal, 100; Cherokee, 6700; Chollar, 100; Consolidated Imperial, 700; Crowell, 100; Decatur, 16,300; Durango, 1500; Enterprise, 5900; Globe Copper, 1800; Goodshaw, 700; Lacrosse, 1100; Mexican, 510; Miner Boy, 5000; Oriental & Miller, 14,400; Quartz Creek, 300; Rappahannock, 1000; Silver Cliff, 18,200; South Hite, new, 1300; South Pacific, 17,300; State Line, Nos. 1 & 4, 4700; State Line, Nos. 2 & 3, 5800; Sutro Tunnel, 13,150; Taylor-Plumas, 21,000; Tuscarora, 7000; Union Consolidated, 150; Washington, 20,800; Whalen Copper Company, 330. Non-dividend shares sold, 225,765. Total shares sold at all the Exchanges, 367,565.

$249¼@$251, with sales of 25 shares at that price; since which, 10 shares sold at $250, and this price is bid for it to-day. Franklin recovered a portion of the decline of last week, and sold at $14¾, but was offered at $14½ to-day, without takers. Pewabic, on the announcement of an assessment of $2 per share, declined from $8@$7, at which it was fairly steady. Quincy has been in active demand, and shows an advance from $67¼@$69, the last sale being at $68¾; but to-day, $67 was the best bid, and offered at $68. About 400 shares sold for the week. Osceola declined from $35@$34 on small sales. We quote a single sale of 25 shares of Atlantic at $16, a decline of $½. National declined from $1⅝@$1½ and Ridge sold at 75@62½c.

In silver stocks, Bonanza sold at $3¼. Catalpa declined from $1.20@$1.15; but later, recovered and sold at $1.22½, closing firm at $1.20 bid. Crescent was steady at 40@45c. Harshaw sold at $1¼, a decline of $¼ since last sale, October 11th. Sullivan declined from $2@$1¾. San Pedro records sales at 30@35c.

At the Mining Exchange, there has been but little activity, and prices are generally lower. Empire has again declined to 35c., at which price there seems to be a demand for it. Massachusetts & New Mexico, dull at 21@22c. St. James Manganese steadily improving, with sales to-day at 74c. In railroad and miscellaneous stocks, there has been a good degree of activity, and this feature of the Exchange seems to be gaining in public favor.

3 P.M.—The market closes dull and featureless. Huron sold at $2⅛@2 7-16; Quincy, at $68. Pewabic declined to $63¼ sales and bid; Catalpa, $1.20 bid, $1.22½ asked; Crescent, $40 bid, $42½ asked; Harshaw, $1¼ bid, $1⅛ asked; Sullivan, $1½ bid, $1⅞ asked; San Pedro, 32½c. bid, 35c. asked.

BULLION MARKET.

NEW YORK, Friday Evening, Nov. 10.

The limited continental demand, on which the market in London advanced a week ago, having been met, the price receded until Wednesday's offering of Indian Council bills at a concession from previous figures gave it a more decidedly downward tendency, as the figures of the annexed table will show, and leaves it weak and nominal at the rates for the day.

DATE.	London Pence.	N. Y. Cents.	DATE.	London Pence.	N. Y. Cents.
Nov. 4	51¾	112½	Nov. 8	51½	112
Nov. 6	51¾	112½	Nov. 9	*	†
Nov. 7	51⅝	Holiday	Nov. 10	51⅜	‡

*51½@51 9-16. †112@112⅛. ‡111¾@111⅞.

BULLION PRODUCTION FOR 1882.

We give below a statement showing the latest bullion shipments. These are officially obtained from the companies, where that is possible; and where official statements can not be procured, we take the latest shipments published in those papers nearest to the mines reported. The table gives the amount shipped for the week up to the date given, as well as the aggregate shipments to such date from the first of January, 1882.

The shipments of silver bullion are valued at $1.29·29 per ounce troy; gold at the standard $20.67 per ounce troy. The actual value of the silver in the following table is therefore subject to a discount, depending on the market price of silver. If the price of silver be counted at $1.12 per ounce, which has for some months been about its average value, the following figures, where they relate to silver bullion, should be diminished by about 13½ per cent to arrive at actual value.

MINES.	States.	For the week.	Month of October.	Year from Jan. 1st, 1882.
*Alice, G. S	Mont.			$644,293
*Alta-Montana, G. S. L	"			303,996
Barbee & Walker, S	Utah	$2,800	$13,941	77,969
Betty O'Neal, S	Nev			59,159
*Black Bear, G	Cal			54,938
Bodie, G. S	"	11,199	41,330	349,963
*Boston & Montana, G	Mont.			208,950
*Caledonia, G	Dak			62,235
*Caribou, S	Colo			126,918
*Central Arizona, S	Ariz			140,154
*Christy, S	Utah			254,888
*Chrysolite, S. L	Colo			278,908
Cons. Bobtail, G	"			99,784
*Contention, S	Ariz			1,411,049
Crismon-Mammoth, G	Utah			63,579
*Custer, G. S	Idaho			619,258
*Deadwood-Terra, G	Dak		60,612	552,093
*Derbec Blue Grav., G	Cal			115,370
*Eureka Con., G. S. L	Nev		35,090	790,928
Evening Star, S. L	Colo			862,520
Father de Smet, G	Dak		11,062	292,699
*Frisco M. & S.Co., S. L	Utah			271,473
Girard, S	Ariz			90,964
Grand Central, S	"			905,000
*Hall Anderson, G	N. S			7,301
Head Center, S	Ariz		18,230	84,177
*Homestake, G	Dak		102,238	984,889
Horn-Silver, S. L	Utah	43,750	337,500	2,965,016
*Hope, S	Mont.		30,599	270,744
Idaho, G	Cal			395,540
Independence	Nev.	6,000	11,850	17,850
*Indian Queen, S	"			138,697
*Inyo Cons., G	Cal			46,421
Ingersoll, S	Ariz			90,000
Iron Silver, S	Colo			865,436
*Joculstita, S	Mex			600,419
*†Leeds, S	Utah			11,988
*Little Pittsburg, S. L	Colo.			118,543
Manhattan, S	Nev			64,300
Morning Star, S. L	Colo			478,626
Mount Diablo, S	Nev			294,397
*Navajo, G. S	"	16,000	48,140	200,428
New York Hill, G	Cal			69,756
Noonday, G	"			67,818
North Noonday, G	"			83,456
Northern Belle, S	Nev.	14,643	82,479	663,057
*‡Ontario, S. L	Utah		117,800	2,052,848
Ophir, G. S	Nev.			39,472
*Oxford, G	N. S			13,420
Pascoe, S	Utah			4,575
*Pleasant Valley, G. S	Cal			31,938
Robert E. Lee, S	Colo			292,550
Savage, S	Nev			3,500
*Silver Bow, G. S	Mont.			236,100
Silver King, S	Ariz			488,680
*Spring Valley, G	Cal			152,000
Standard, G	"	21,969	114,585	927,515
Star, S	Nev.	2,244	5,200	53,340
Stormont, S	Utah	3,600	17,030	249,474
Syndicate, G	Cal	10,500		29,929
Tintic M. & M. Co	Utah	3,423	12,073	38,607
*Tip Top, S	Ariz.			191,034
*Tombstone, G. S	"			590,286
Union Con., S	Nev			217,623
Vizina, S	Ariz			165,200
Total amount of shipments to date				$22,910,079

* Official. † Net. ‡ Assay value. *G. Gold. S. Silver. L. Lead.*

Bullion Receipts at New York.—The bullion received from the mines at the various offices in this city during the week ended November 10th, as compiled from various sources, amounted to $176,000, as against $155,000 reported for the previous week. The receipts from January 1st, 1882, to date, are $11,808,059.51.

Foreign Bank Statements.—The governors of the Bank of England at their weekly meeting made no change in the

BOSTON MINING STOCKS.

	Nov. 2.		Nov. 3.		Nov. 4.		Nov. 6.		Nov. 7.		Nov. 8.		Sales.
	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	
Allouez					2.25						16.00		100
Atlantic											16.00		35
Aztec													
Blue Hill													
Bodie Con					3.50								100
Bonanza D													
Bruns. Ant													
Bulwer													
Cal. & Hec	249½						251				251		35
Carbon. Hill													
Catalpa			1.20	1.15	1.50	1.15	1.20	1.17½			1.22½	1.20	3,101
Central Ariz													
Cherryfield													
Chrysolite													
Con. V'ginia							.70				.75		400
Copp'r Falls													
Crescent	.42½		.40		.45	.42½					.45	.44	4,250
Cumberl'd													
"Cusi"													
Deer Isle													
Denver City													
Douglas													
Duncan													
Dunkin			.30										600
Empire	.39	.35	.40	.38	.39	.38	.39	.36			.36	.35	21,700
Eureka													
Franklin											14.75	14.25	100
Hancock G	5.37½	5.25			5.37½		5.25				5.37½		700
Harshaw			1.25		1.37½	1.25	1.25				1.25		750
Huron	2.50						2.37½						400
Independ'ce													
Indian Q'n													
Little Pittsb													
Madison													
Mammoth													
Mass. & N.M.	.22	.21	.22	.21	.21		.22	.21					14,400
Milton													
Napa													
National			1.62½								1.50		750
North. Belle											11.50		50
Osceola	35.00		35.00				34.50	34.25			34.50	34.00	138
Penn-Breck													
Pewabic			8.00	7.75	7.25	7.00	7.00				7.25	7.00	1,055
Pine Tree							.23	.20			.17		1,100
Plymouth													
Pontiac													
Quincy	67.25		67.50		69.00	67.62	68.00				69.00	68.50	493
Ridge											.75	.62½	300
Robinson							1.46				1.46		400
San Pedro							.30				.35		150
Silver Islet													
So. Pacific	.12		.12		.12		.12				.14		1,600
Standard													
Star Copper													
State Line													
Nos. 2 & 3													
Stewart													
Sullivan			1.75										100
Sutro Tun													
Sycamore													
Twin Lead													
Vizina													

PHILADELPHIA MINING STOCKS.

	Nov. 3.		Nov. 4.		Nov. 6.		Nov. 7.		Nov. 8.		Nov. 9.		Sales.
	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	
American	.18		.18		.18	.17			.18		.18		300
Argent													
Arizona So													
Aztec	.03										.03		4,000
Battle Mt													
Black Sul													
Buena	.04		.05		.05	.04			.05				15,350
California													
Callista					.05				.06				3,000
Cincinnati			.10										1,000
Comprom'e			.35	.32½	.37½	.32½			.40	.37½	.40	.37½	2,800
Dauntless													
Del Monte													
Denver City	.23		.23										4,000
Fairview													
Eureka													
Girard	.20	.19	.18	.17	.19				.20	.19	.19		17,900
Golconda													
Golden Age													
Governor									.08		.08		7,400
Grand Cent'n	.07		.07		.07				.08		.08		18,300
Gunnison			77½	.50					.70				1,835
Hancock													
Hibernia													
Intervener													
Iowa Gulch	.09	.08	.08		.09	.08			.09		.09		29,150
King Bul'on													
Ledger Con													
Little D'la'd													
Little Maud													
L'g & D'y Hl													
McCullough													
Magnolia			.01		.01								7,100
Montana													
Mt. Lincoln													
Mt. Sheridan			.03		.04				.04				2,500
National													
Orion	.10				.10								1,400
Palmetto E													
Pembina	.75		.60										1,600
Penn-Breck	.21		.22		.23	.22					.23		13,100
Permanent													
Pizarro													
Pizarro Ex													
Potosi													
Rara Avis			.97½										100
Rara Avis E			.05										1,500
Rico Pion'r													
San Pedro			.01		.01				.01				7,900
Sierra G'nde									4.35	4.20	4.15		1,400
Silver Cord													
Silv'r Plume	.01								.02				3,000
Silver Rock													
Standard													
Sultana	.04		.04		.04				.04		.04		18,000
Sutro Tun'l													
Tombstone	.87½		.87½	.85	.92½	.85			.92½		.90		10,380
Tranquilli'y													
Tyrone													
Union Con													
Victor			.01										6,000
Yale Mt													

bank's minimum rate for discount, and it remains at 5 per cent. During the week, the bank gained £94,000 bullion on balance, and the proportion of its reserve to its liabilities was raised from 33 15-16 to 37¼ per cent, against 38¾ per cent at same date 1881. The bank, November 9th, lost £47,000 bullion on balance. The weekly statement of the Bank of France shows a gain of 3,100,000 francs gold, and a loss of 2,600,000 francs silver.

Exports and Imports of Gold and Silver at New York.

Exports.

Week ended November 4th	$117,844
Corresponding week last year	507,500
Since January 1st, 1882	44,561,771
Corresponding period last year	9,829,825

Imports.

Week ended November 4th	$447,712
Corresponding week last year	1,493,084
Since January 1st, 1882	4,728,641
Corresponding period last year	53,221,577

METALS.

NEW YORK, Friday Evening, Nov. 10.

Copper.—The only feature of interest has been the announcement that the lake companies have sold two parcels of copper for export at 18c. Nothing has transpired of the magnitude of this contract, but it is not probably heavy. This may be looked upon as indicating that there must be, at least, a slight surplus which it is necessary to clear off in this manner. We hear besides of a sale of 100,000 pounds Baltimore copper at our quotations. We quote Lake copper 18⅛@18¼c., and Baltimore and Arizona brands 17¼@17⅝c. London to-day cables £68 15s. for Chili Bars, and £76 for Best Selected.

Tin.—The market has been quiet but tolerably firm. We learn of sales of Straits at 22⅜c., and later at 22⅝c. cash, and 23c. is now asked. Australian is held at 22⅞c., Lamb & Flag at 23¼@23½c. London, at the close, cables £79, with upward tendency.

Lead.—Consumers continue to hold off, and current sales, for some time past, have been considerably below the ordinary wants; they must, therefore, be drawing heavily on their stocks. The only sales we hear of, and they are in a jobbing way entirely, are thirty tons at 4·90c. This, of course, does not furnish any basis for the real state of the market. We have nominal quotations of Refined at 4·80@4·85c.

Messrs. John Wahl & Co. wire us as follows to-day from St. Louis:

Soft lead is freely offered at 4·50c., and Hard lead at 4·37½c.

As will be seen from the letter given below, this is parity here of 4·88c. for Refined, and 4·75½c. for Common, or a little less than last week.

We have the following letter, dated November 7th:

You write in your JOURNAL, November 4th, 1882: "According to our figures St. Louis market is equivalent to 4·75c. for Hard, and 4·85c. for Refined New York." You must always add three cents per 100 pounds for transfer across the river, as all rates are made from East St. Louis, Ill., which is opposite St. Louis, Mo. Hence, 4·50c. St. Louis; ·35 cents per 100, present rate freight to New York; ·03 cent per 100, transfer across the river by teams, is 4·88c. for Refined New York, and 4·78c. for Hard lead New York. Also, in our telegram, we said 4·57½c., instead of 4·55, as you had it.

The Eastern corroders and manufacturers say that you are the most correct on lead quotations, so we point out these errors, as we want you to stand second to none on lead quotations. Yours respectfully, JOHN WAHL & Co.

England cables £14 for common English.

Spelter.—The dullness in this metal remains unbroken, and although we are advised that it is freely offered at 5⅛c., we hear of no transactions. England cables £16 10s., a further slight decline.

Antimony.—This metal is still weak and dull, being nominally 10⅜c. for Hallett's and 12¾@12⅞c. for Cookson's.

Quicksilver.—The London price by cable is £5 17s. 6d. Here, 37½c. is an outside price. Sales for less from the wharf.—*San Francisco Commercial Herald.*

IRON MARKET REVIEW.

NEW YORK, Friday, Evening, Nov. 10.

The Iron and Metal Exchange in Wall street has issued a circular to its members asking for an expression of opinion on the proposition to establish a weekly special 'change day, Friday being suggested. We learn that the responses to this circular indicate that the suggestion meets with considerable favor.

Pig-Iron.—The market has displayed more activity than of late, though there is a tendency to weakness in some quarters. We note sales during the week of 1000 tons of Chestnut Hill 2 and 2 X at $22 and $24, and of 1000 tons of Thomas 1 and IX Foundry at $24 and $26, and learn that the same parties have since declined an additional order. All furnace men are not, however, as favorably situated. Our quotations remain at $25@$26.50 for Foundry No. 1; $22@$25 for Foundry No. 2; and Gray Forge $21.50@$22. Bessemer Pig is dull and quiet at $23.50 nominally, England being lower, 56s. 6d. Nothing has been done in Spiegeleisen, which we quote $28.50@$29 for 10 and 12 per cent, and $35.50 @$36 for 20 per cent. The quantities of foreign pig in bond at New York, Philadelphia, Boston, Baltimore, and New Orleans on November 1st aggregated 4000 tons only, the quantity of spiegeleisen being besides 3117 tons.

Scotch Pig.—There has been very little change in the position. Arrivals are light and are promptly taken care, while spot stocks, except of Eglinton, are very light. Business has not aggregated more than 800 tons, and the sales for future delivery are limited. We quote Coltness, $27.50@$28; Glengarnock and Carnbroe, $25@$25.50; Gartsherrie, $25.50@$26; and Eglinton, $23@23.50. The cable quotations at the Iron and Metal Exchange, 69 Wall street, today, are as follows: Warrants, 50s.; Carnbroe, 57s. 6d.; Gartsherrie and Summerlee, 64s.; Coltness, 69s.; and Langloan, 67s. 6d., all at Glasgow; and Glengarnock, 57s. 6d. and Eglinton, 52s., both at Ardrossan. Freights from Glasgow are 11s.

Rails.—The absence of any demand is telling temporarily on the market in steel rails, and it is stated that already two Western workers have reduced their output in consequence of scarcity of orders. How far others will follow the same example remains to be seen, but it is quite sure that some of them will prefer to go into extensive repairs rather than enter into a fight for what little business there is for the present. The present condition of affairs affords no criterion for the future, as yet, as consumers are holding off, and the demand is artificially restricted. We hear of small transactions on the basis of $43@$45 for early delivery at mill, ordinary section, and there is some unconfirmed talk of low prices in the West. In the ports of entry on the Atlantic coast, the total quantity of steel rails in bond, November 1st, was only 3536 tons. England cables £5 5s. for rails at shipping ports, and £4 12s. 6d. for Blooms.

Old Rails.—We hear of no business worthy of

mention, and the market continues languid. There were in bond in this city at the beginning of the month 8382 tons of old rails. We quote $27@$27.50 for Ts, and $30@$30.50 for D. Hs. nominally.

Scrap.—Nothing has transpired. We quote $27@$27.50 ex ship.

Philadelphia. Nov. 10.

The Pennsylvania iron market has developed several evidences of weakness during the past few days, which are not likely to be arrested until a lower range of prices is established. Only a few days ago, a contrary tendency was said to be under way, and was confidently expected to result in an advance. The reason for the decline is found to be in the failure of consumers to come forward and provide for future requirements. Transactions all this week have been confined to very small lots, and only for urgent requirements. There is no particular lack of confidence in any quarter, but a general desire to wait the development of events. The Western markets are still closely watched for the expected development of a more active demand. Our telegraphic and private correspondence shows no particular improvement, but a steady continuance of the October demand.

Pig-Iron.—In the aggregate, a fair amount of business has been done in pig-iron. A good many sales have taken place at $26.50, which is about the average of No. 1 Foundry to be had. Stocks like Chickies is in very active demand at $26 at furnace, and agents are unable to meet all requirements. Crane, Andover, and similar brands are sold far ahead, and inquiry is active for every thing that makers of these can offer. It is correct to say that the better brands are permanently scarce. There is no disposition to advance quotations or to squeeze the market, but to let events take their natural course. A few brands, called inferior, are selling from $25@$26, but not so rapidly as a week or ten days ago. The iron market is a little easier, and consumers are more confident than heretofore of being able to purchase for current requirements at satisfactory figures. No. 2 iron is selling at $24@$24.50, with a few special brands as high as $25. A number of small sales were heard of, and buyers seem to be satisfied with the outlook. There is no disposition in any quarter to rush into the market, except where concessions can be obtained, and these are of very rare occurrence. Occasional rumors obtain some credence on the street as to some improbable happenings, but the general course of the market is even and quiet. Sales to-day and yesterday in Foundry and Forge grades will foot up perhaps a thousand tons. Gray Forge is quoted at $22@$23.50, but the market is not as strong as last week, and buyers are looking for more favorable terms. Furnace companies are prepared to stock up rather than offer very serious concessions. Bessemer pig is dull at $23.50, and foreign irons are in very moderate request, owing to high prices.

Muck Bar.—The few sales heard of this week took place at $41.50@$42. Inquiries for a few large lots are on the market, but buyers do not care to pay outside figures.

Blooms.—No material change has taken place in quotations. A few lots have sold a little under card rates, which are $68 for charcoal, and $58 for anthracite.

Merchant Bar.—The Eastern market continues quiet and dull. Within the past few days, a few sellers have placed orders for small lots at 2½@2·55c. A very fine article can be had at 2·55c. Fair-sized lots have sold as low as 2·45c. in the city and 2·40c. in the country. It is asserted that as low as 2·35c. has been accepted, but quality has not been stated. There is a decided downward tendency in the finished iron product, to the surprise of many on both sides. In consequence of this, neither buyers nor sellers are anxious to make any engagements far ahead, but it is probable that some few of the shrewd buyers will place large orders when prices reach what they consider the lowest limits.

Skelp.—Some very large orders for Skelp iron are on hand, and will not be completed until December. Some recent orders were placed as low as 2·55c.; less would be taken now.

Nails.—The demand for immediate delivery is active, and prices are firm for such lots; but for later deliveries, quotations are wavering, and sharp concessions have been extended to a few favored buyers.

Structural Iron.—The transaction referred to a short time ago was for 10,000 tons, which has been closed by a local firm for Western parties. Inquiries are on the market to-day for lots of a few hundred tons at 3c. for Angles, 4c. for Beams, 4·2c. for Channels. The requirements for bridge building indicate an active demand throughout the winter.

Plate and Tank.—Manufacturers report no very special features in the demand for Plate iron, but prices are generally a little easier than a few days ago. Some small transactions have been closed at 3c., shaded. The emergency does not call for the concessions which a few buyers are asking.

Sheet-Iron.—Sheet-iron is the strongest on the list where early deliveries can be extended. Several buyers are in the market for immediate needs. Card rates are firmly maintained. Manufacturers have a favorable prospect for all the work that can be done this winter.

Steel Rails.—Makers report a quiet market, and look for a few large orders as soon as next year's prices can be ascertained with some certainty. Inquiries were made this week for round lots, and quotations were given at $43@$45. There is a run of small orders of a few hundred tons, which are booked down at $45@$46. Rail-makers feel encouraged with the evidences of winter and spring demand.

Steel Blooms.—The inquiries are very few, owing to the condition of the foreign market; and in the absence of transactions, no definite figures can be given.

Old Rails.—Quotations are given to-day at $28 for Ts and $30 for Double-heads. Stocks are very scarce, and consumers are not able to obtain supplies as they desire. Agents and buyers are looking around for supplies. Domestic are quoted at $28.50.

Scrap-Iron is quieter than usual at $28@$30; Medium, $26@$27.

STATISTICS OF COAL PRODUCTION.

Comparative statement of the production of anthracite coal for the week ended November 4th, and years from January 1st:

TONS OF 2240 LBS.	1882.		1881.	
	Week.	Year.	Week.	Year.
Wyoming Region.				
D. & H. Canal Co..	84,524	2,983,072	76,066	3,013,780
D. L. & W. RR. Co.	105,121	3,848,835	98,440	3,593,928
Penna. Coal Co.....	16,780	1,186,355	38,024	1,183,578
L. V. RR. Co.....	21,274	918,197	22,586	959,061
P. & N. Y. RR. Co..	3,605	161,480	2,445	84,917
C. RR. of N. J.....	19,871	1,035,590	24,711	1,042,703
Penna. Canal Co...	15,205	437,798	15,160	403,630
	266,380	11,471,327	277,432	11,181,397
Lehigh Region.				
L. V. RR. Co.....	110,997	4,071,294	102,300	3,775,475
C. RR. of N. J.....	23,466	1,888,521	29,774	1,829,946
S. H. & W. B. RR..	728	39,891	....	10,426
	135,191	5,999,706	132,074	5,615,847
Schuylkill Region.				
P. & R. RR. Co.....	158,822	5,806,828	146,031	5,829,103
Shamokin & Lykens Val.....	26,433	1,069,867	11,900	860,795
	185,255	6,876,695	157,931	6,689,898
Sullivan Region.				
St Line&Sul.RR.Co.	1,758	52,180	1,254	54,083
Total	588,584	24,399,908	568,691	22,541,225
Increase.....	19,893	1,858,683	.....	.....
Decrease.....	.....	.....	.....	.....

The above table does not include the amount of coal consumed and sold at the mines, which is about six per cent. of the whole production.

Total same time in 1877.....16,790,306 tons.
" " " " 1878.....14,283,208 "
" " " " 1879.....22,123,522 "
" " " " 1880.....19,576,972 "

The decrease in shipments of Cumberland Coal over the Cumberland Branch and Cumberland & Pennsylvania railroads amounts to 838,411 tons, as compared with the corresponding period in 1881.

Belvidere-Delaware Railroad Report for the week ended October 28th:

	Week.	Year. 1882.	Year. 1881.
Coal for shipment at Coal Port (Trenton)	3,185	80,460	62,589
Coal for shipment at South Amboy.....	17,343	691,455	605,063
Coal for distribution.....	15,826	606,646	582,834
Coal for company's use	2,225	107,035	93,624
Total.....	38,579	1,485,596	1,344,110
Increase.....	.....	141,486	.....
Decrease.....	.....	.....	.....

The Transportation of Coke over the Pennsylvania Railroad for the week ended November 4th, and year from Jan. 1st:

Tons of 2000 lbs.	Week.	Year.
Penn. RR. (Alleghany Region).....	2,360	94,005
West Penn. RR	3,777	99,421
Southwest Penn. RR	37,416	1,482,754
Penn. & Westmoreland Region, Pa. RR	6,252	219,437
Pittsburg, Penn. RR.....	6,928	469,601
Snow Shoe (Clearfield Region).....	312	17,887
Total.....	57,045	2,383,105

The Production of Bituminous Coal for the week ended November 4th was as follows:

Tons of 2000 lbs., unless otherwise designated.

	Week. Tons.	Year. Tons.
Cumberland Region, Md.		
Tons of 2240 lbs.....	52,000	1,113,134
Barclay Region, Pa.		
Barclay RR., tons of 2240 lbs.	6,592	337,201
Broad Top Region, Pa.		
Huntingdon & Broad Top RR.....	5,468	238,722
East Broad Top.....	1,207	76,605
Clearfield Region, Pa.		
Snow Shoe.....	6,143	193,498
Tyrone and Clearfield.....	48,239	2,345,049
Alleghany Region, Pa.		
Pennsylvania RR.....	13,118	459,232
Pittsburg Region, Pa.		
West Penn RR.....	8,153	293,502
Southwest Penn. RR.....	4,140	90,677
Penn & Westmoreland gas-coal, Pa. RR.....	22,830	1,062,784
Pennsylvania RR.....	12,664	553,580
Total.....	180,554	6,763,984

COAL TRADE REVIEW.

NEW YORK, Friday Evening, Nov. 10.

Anthracite.

Chiefly owing to the mild weather, the anthracite coal trade is dull and quiet, so far as current business is concerned. The deliveries on season contracts continue heavy, and the stocks in first hands are not large. The retail trade is doing fairly well, although some dealers are selling their coal very cheap in the yard. Wholesale prices continue steady at about September circular, only occasional odd lots going off for less.

A gentleman prominently connected with the anthracite coal trade of Philadelphia sends us the following:

The local trade continues very active, but shipments at tidewater are light, owing to the short supply of vessels. The high freights paid by the bituminous coal shippers interfere also greatly with shipments of anthracite, which have to be governed, for all but special coals, by comparison with New York rates; a difference exceeding 35 cents working to the disadvantage of this port. Stove coal continues firm and brings the full circular rate.

Freights to Boston vary from $1.60@$1.75 for ordinary-sized vessels, and, many captains preferring to go South at this season, rates to Southern ports are from ten to fifteen cents less than they were a few days ago.

The production of anthracite for the week ended November 4th was 588,584 tons, as compared with 702,413 tons the previous week, and 568,691 tons for the corresponding week of 1881. The total product from January 1st to November 4th was 24,399,908 tons, as against 22,541,225 tons for the like period of last year, showing an increase this year of 1,858,683 tons.

Bituminous.

Except what appears to be a temporary spurt in steamer trade, due to adverse weather, etc., there is little to report. The Clearfield operators look forward to a little better supply of cars, and are filling most of their transient orders by buying Cumberland coal. The market is quite bare of bituminous coal, and freights from Baltimore and Georgetown are still high. We quote for Cumberland, alongside, $4.75@$4.85, and for Clearfield, nominally, $4.85@$5.

Horsford's Acid Phosphate

Pleasant to the Taste.

DR. A. L. HALL, Fair Haven, N. Y., says: "Have prescribed it with marked benefit in indigestion and urinary troubles."

ONTARIO SILVER MINING COMPANY,
18 Wall Street,
NEW YORK, Nov. 6, 1882.

DIVIDEND NO. 85.

The regular monthly dividend of FIFTY CENTS per share has been declared for October, payable at the office of the transfer-agents, Lounsbery & Haggin, 18 Wall Street, on the 15th inst.

Transfer-books close on the 10th inst.

LOUNSBERY & HAGGIN,
Transfer-Agents.

DEADWOOD-TERRA MINING COMPANY,
18 Wall Street,
NEW YORK, Nov. 9, 1882.

DIVIDEND NO. 24.

A dividend of Thirty Thousand Dollars, being Fifteen Cents per share, has been declared for October, payable at the office of the transfer-agents, Lounsbery & Haggin, 18 Wall Street, on the 20th inst.

Transfer-books close on the 15th inst.

H. B. PARSONS,
Secretary.

OFFICE OF THE JOCUISTITA MINING COMPANY, No. 18 Wall Street,
NEW YORK, Nov. 8, 1882.

DIVIDEND NO. 6.

The Jocuistita Mining Company has this day declared a quarterly dividend of one hundred thousand dollars being ONE DOLLAR ($1) per share, payable at the office of Lounsbery & Haggin, No. 18 Wall Street, on the 29th inst.

Transfer-books close on the 25th inst.

R. P. LOUNSBERY, President.